HID® FARGO® DTC™ Printers

Linux User Guide

PLT-04870, A.4
June 2023

Copyright

Trademarks

Contacts

For technical support, please visit: **https://support.hidglobal.com**.

What's new

Date	Description	Revision
June 2023	Updated supported OS levels.	A.4

A complete list of revisions is available in **Revision history**.

Section 01

Introduction

1.1 Scope

This document describes the installation of Linux drivers for several HID FARGO DTC printers, together with the use of the Common Unix Printing System (CUPS) to:

- Add a printer
- Manage a printer
- Configure the available job options

The following FARGO DTC printers are supported:

Printer	Minimum Driver Version	Driver Part Number
DTC1500	1.3.9.0	SFW-01787
DTC4500e	1.0.0.0	SFW-02133
DTC4250e	1.0.0.0	SFW-02132
DTC1250e	1.0.0.0	SFW-01027
DTCii	1.0.0.0	SFW-02134

1.2 Supported CUPS versions

Common Unix Printing System (CUPS) is a modular printing system for Unix-like computer operating systems. CUPS allows a computer to act as a print server to accept print jobs from client computers, process these jobs, and send them to the appropriate printer.

The minimum required CUPS version for this driver is 1.7.2. If you need to use an older version of CUPS, please contact HID Global Technical Support at **https://www.hidglobal.com/support**.

The following Linux operating system are supported:

- NeoKylin 7
- NeoKylin 10
- Ubuntu 14.04
- Ubuntu 16.04
- Ubuntu 18.04
- Ubuntu 20.04
- Unity OS

The following architectures are supported:

- Intel x64 and x86
- MIPS
- ARM

1.3 Firmware requirements

DTC printer firmware 1.0.4.10 or newer is required to use CUPS. To verify the firmware version of your printer, press and hold the ⏎ button on the DTC printer for four seconds to print a printer settings card. The firmware version will be included on this settings card. For Printers with an LCD Display, the firmware version can also be found in the **Information Menu** section:

1. Press the ⏎ button on the DTC printer. The display will change from **Ready** to **Info**.
2. Press the ⏎ button to select **Info**. The **Info** menu is displayed with **Printer Model** highlighted.
3. Press the ⏎ button to highlight **Printer Firmware Version**.
4. Press the ⏻ button to select. The **Printer Firmware Version** is displayed.

1.3.1 USB connection support

Any Linux computer can only have one printer driver instance. Multiple printer driver instances are not supported by the Linux operating system.

Section 02

Installation and maintenance

2.1 CUPS Linux driver download

Important: It is important that the DTC printer is not connected to the computer using a USB cable before the Linux driver is installed.

1. Open a web browser and go to: **https://www.hidglobal.com/drivers**.
2. Select **FARGO®** from the **All Brands** list.
3. Select **Linux** or **Linux x64** from the **All OSs** list.
4. Select your DTC printer driver from the list of driver files and click **DOWNLOAD**.
5. Read the End User License Agreement and click **I Accept** to download the driver.

2.2 CUPS Linux driver manual installation

Note: The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.

1. Copy the downloaded driver archive file into the root directory of the system.
2. With root privileges, run the following command:

```
sudo tar xf /DTC1500-x64.tar.gz -C /
```

2.3 CUPS Linux driver automatic installation

1. Ensure that the "installDriver_i386"/"installDriver_x86_64.sh" file is stored in the same directory as the downloaded driver file.
2. Add execution privileges to the script file:

```
chmod +x ./installDriver_x86_64.sh
```

3. Execute the script file:

```
sudo ./installDriver_x86_64.sh
```

The installation begins. As the installation progresses, messages are displayed on the screen. When the installation has completed, you will be prompted to reboot your system.

2.4 Upgrade the CUPS driver from an older version

Follow the installation instructions in **2.1 CUPS Linux driver download** to download the driver file. Then, see **2.2 CUPS Linux driver manual installation** or **2.3 CUPS Linux driver automatic installation** to overwrite the existing driver with the new driver.

Note: Depending upon the desired configuration options, you may have to delete and reinstall the printer using the new PPD file. Additional modification of the default print job configuration options may be necessary.

2.5 Remove a driver

There is no automatic uninstall process to remove a driver. Therefore, the driver files must be deleted manually. The following table shows the locations and names of the files that are installed on the Linux system for the driver.

To remove a driver, locate these files and delete them from your Linux system.

Note: The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.

File	Description
/usr/share/cups/model/DTC1500.ppd	PPD file for the DTC1500 card printer.
/usr/libexec/cups/filter/rastertofargo-x.y.z	Raster filter driver for the FARGO DTC Card Printers. "x.y.z" is major, minor, and minor extension.
/etc/udev/rules.d/92-FARGO.rules	Linux device management rules file.

2.6 Upgrade the printer firmware

Note: The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.

1. Download the new firmware zip package from **https://www.hidglobal.com/drivers**.
2. Unzip the archive to extract the *.frm file.
3. From a terminal window, enter one of the following (modifying the path as needed):
   - `lpr -P DTC1500 FIRMWAREFILE NAME.frm`
   - `lp -d DTC1500 FIRMWAREFILE NAME.frm`
4. Wait for the printer to complete the upgrade procedure.

Note: The .frm file is not located in the driver package.

2.7 Determine the printer IP address

The printer IP address must be determined prior to adding a network connected printer.

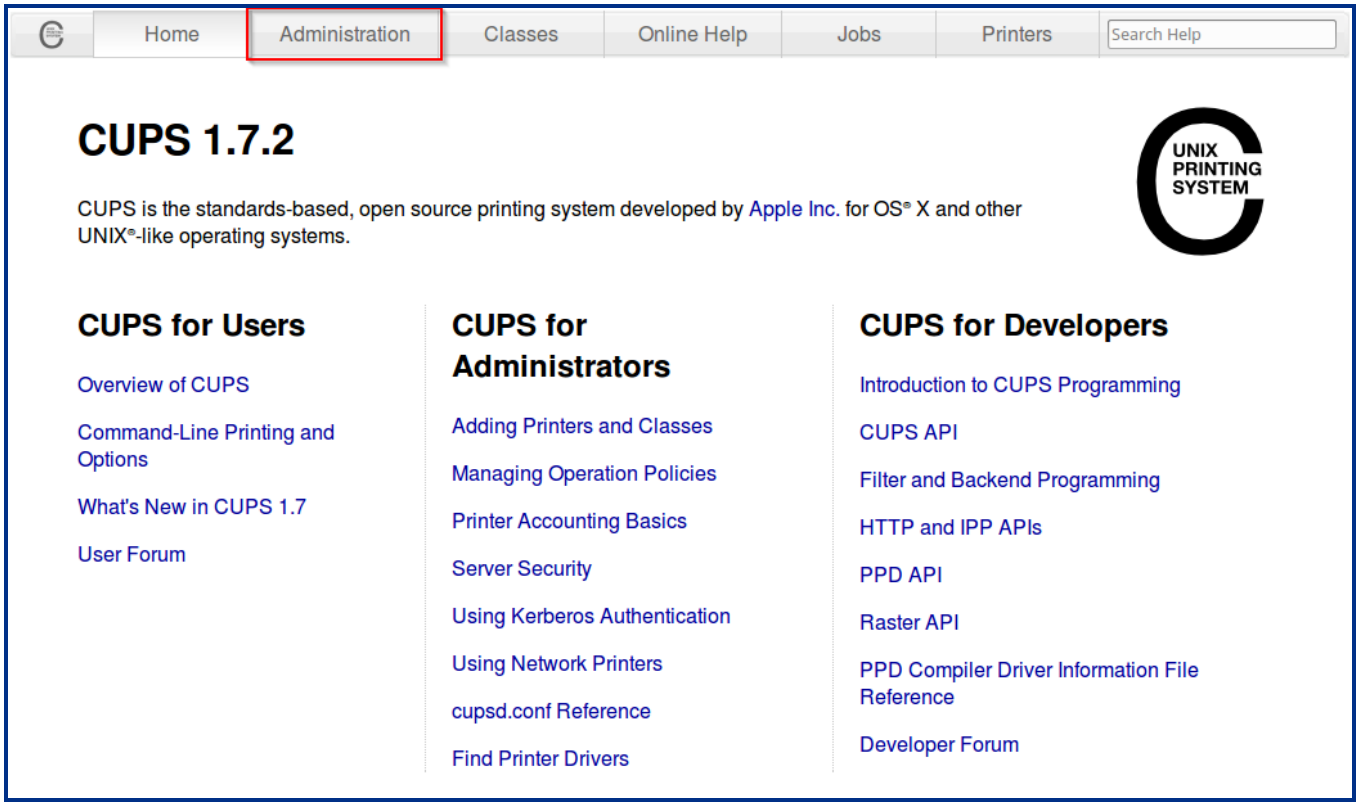
1. Power on the printer.
2. Ensure that the printer is connected to the network using the RJ45 connector on the back of the printer.
3. Wait for the printer to obtain an IP address from DHCP. This may take up to a minute.
4. Press and hold **Pause** for at least four seconds to print a settings card. The current IP address will be listed on the settings card.

Note: The printer must be ready and idle for the settings card to print.

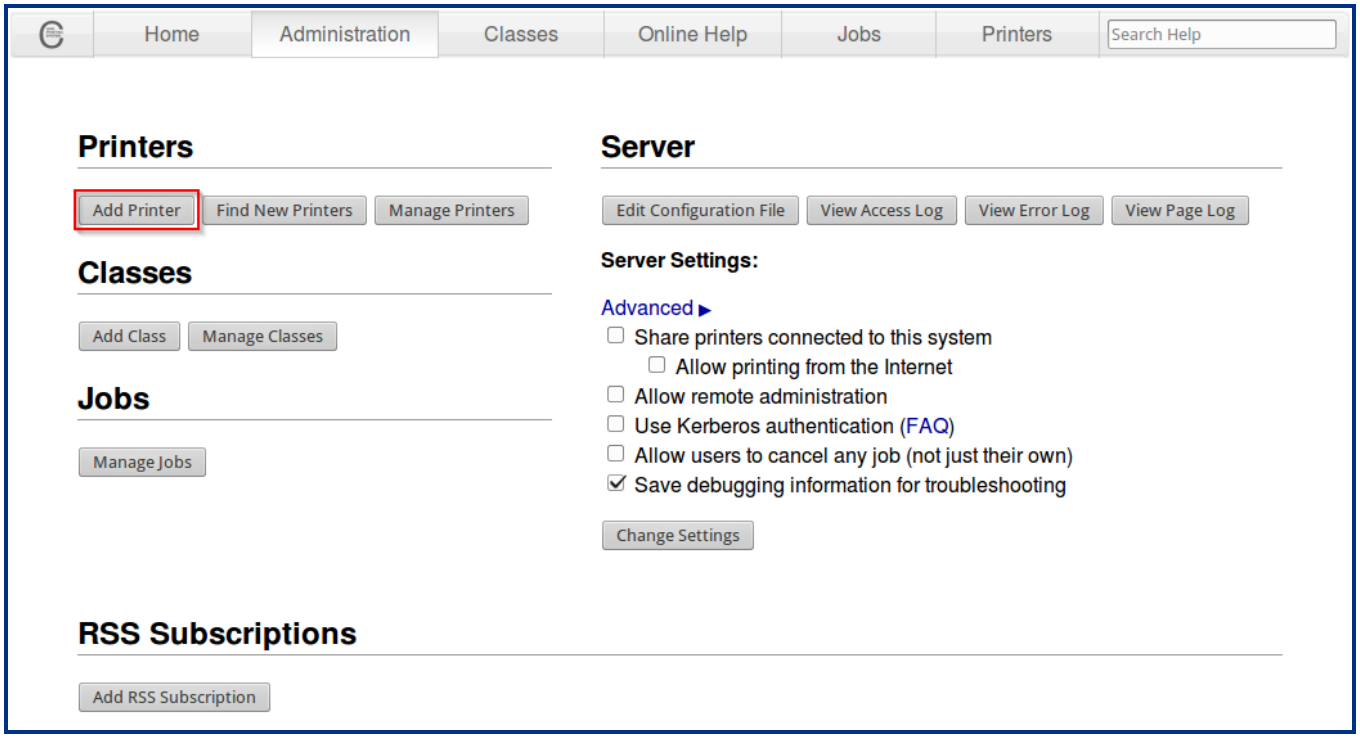
2.8 Add a printer connection using Ethernet or USB

Note: The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.

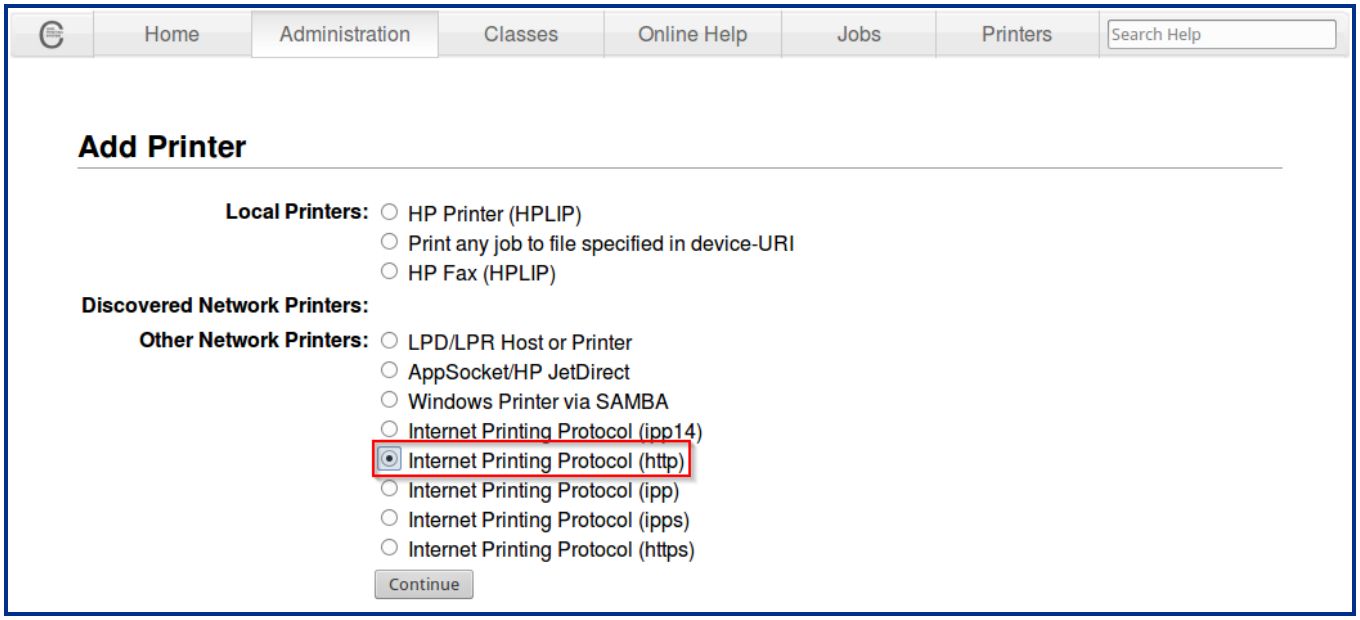
1. Connect the Ethernet or USB cable to the printer.
2. Power on the printer.
3. Open a web browser and go to **http://localhost:631/**.
4. Open the CUPS home page and click the **Administration** tab.



5. Click **Add Printer**.



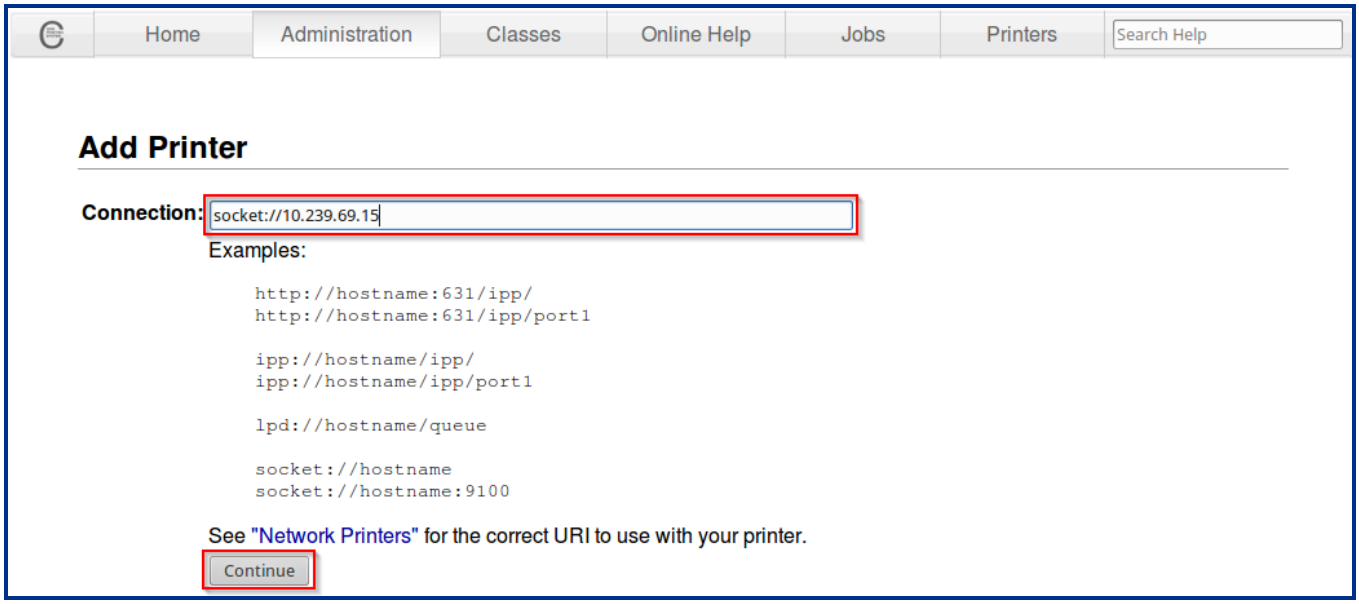
6. If the CUPS **Authentication Required** message is displayed when adding a printer, enter your login **username** and **password** to continue. See your CUPS documentation for more information about permissions and authentication procedures.
7. Select the USB-connected printer or the http printer.



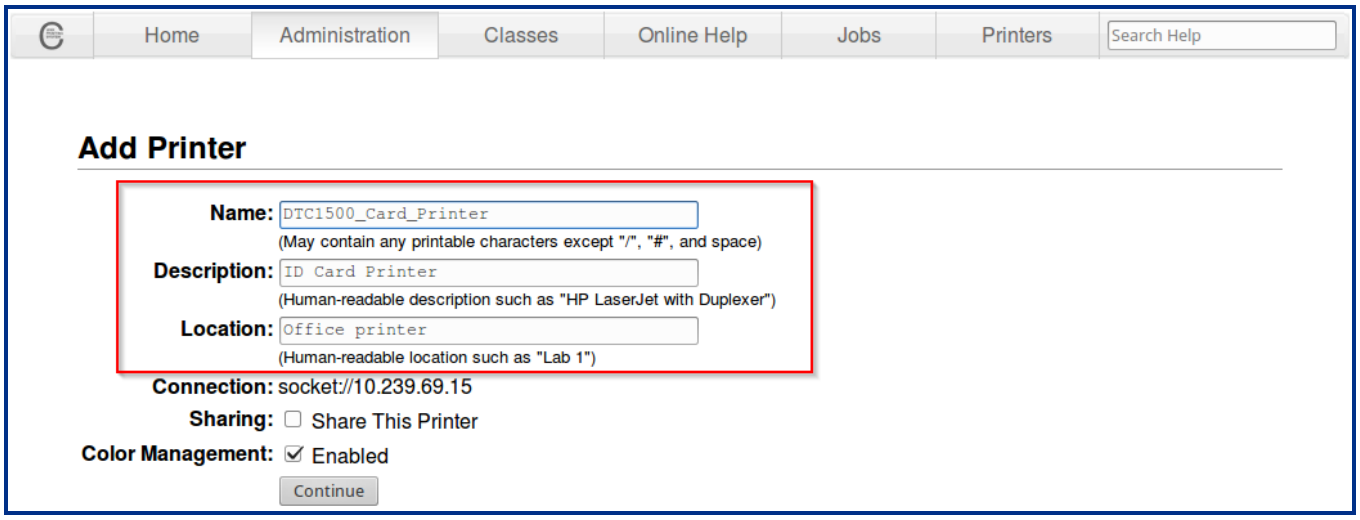
8. If you selected
   - A USB printer, make sure the USB connections between the printer and the Linux workstation are firm and that the printer is powered on.
   - An http printer, enter the IP address for the printer followed by the port number 9100 using the format

     ```
     socket://aaa.bbb.ccc.ddd:9100
     ```

     where `aaa.bbb.ccc.ddd` is the IP address of the printer.

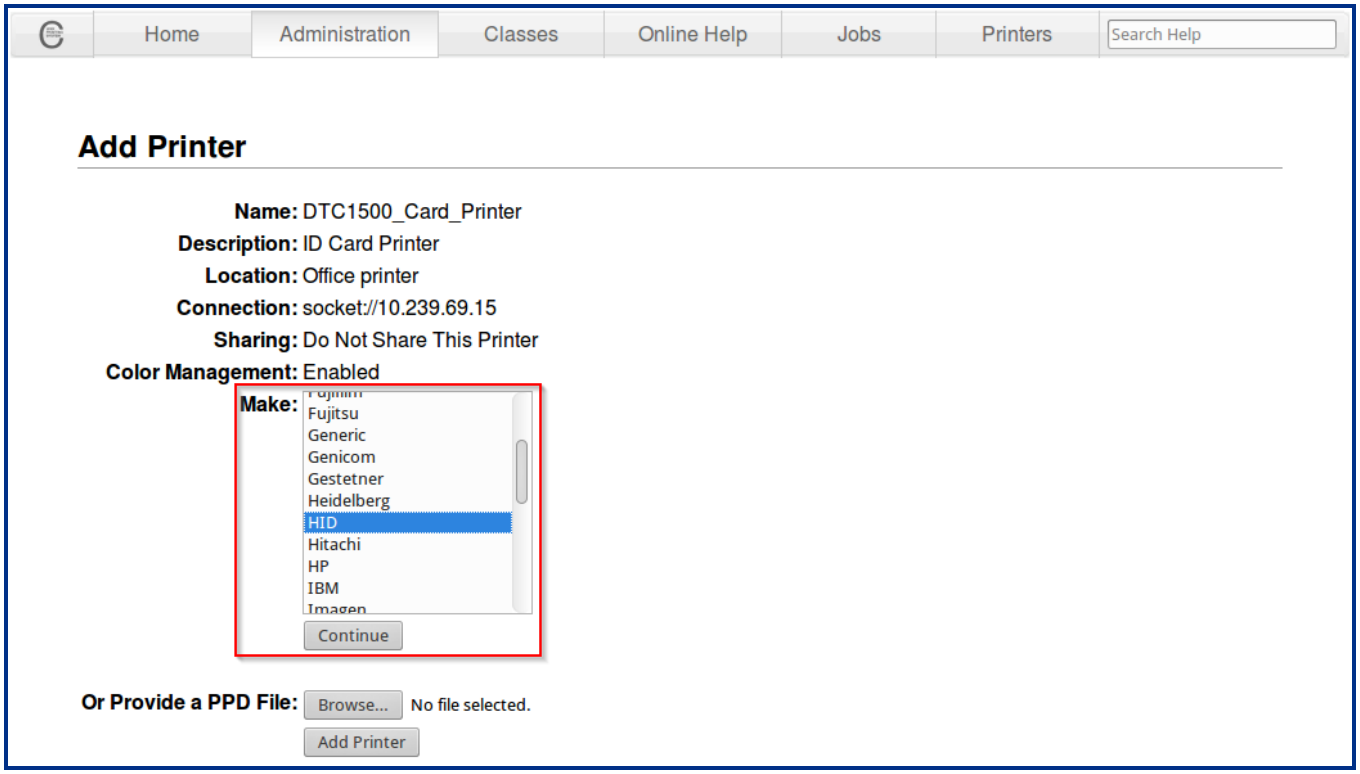


9. Depending upon the requirements, the printer data can be modified in the **Add Printer** window:

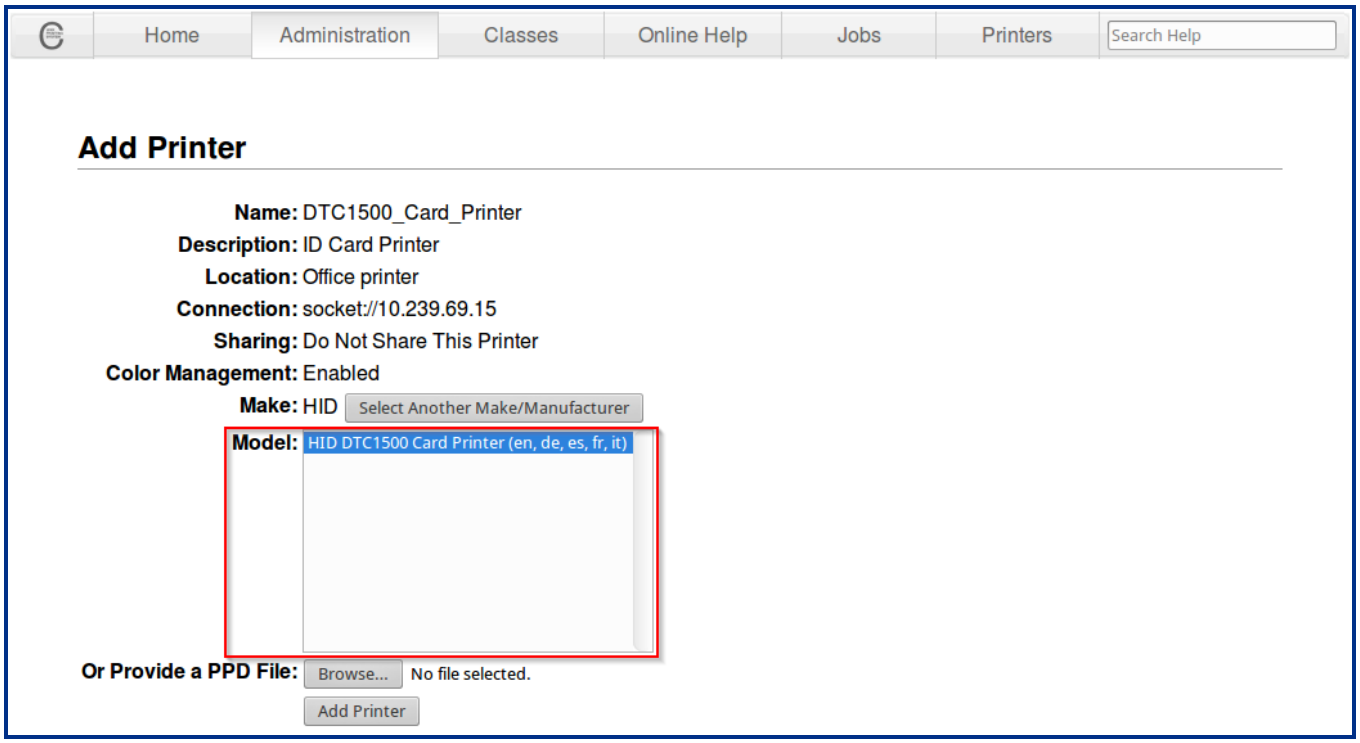


   - Enter a new name for the printer, if needed.
   - Enter a brief description of the printer.
   - Enter a brief description of the location of the printer.

10. In the **Make** list, select **HID** and click **Continue**.



11. In the **Model** list, select the your DTC printer model and click **Add Printer**.



2.9 Maintenance procedures

2.9.1 Performing a ribbon sensor calibration

Note: The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.

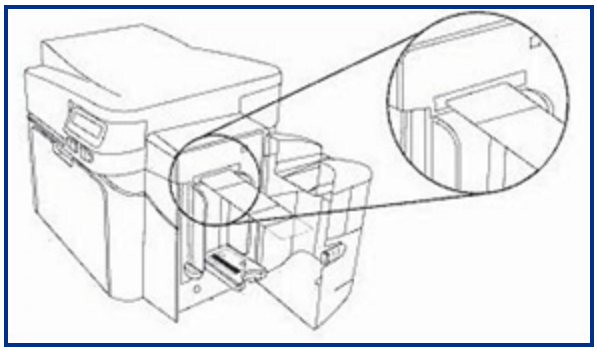
1. Remove all cards from the card hopper and close the hopper door.
2. Open the front cover, remove the ribbon cartridge, and close the printer front cover.
3. From a terminal window enter one of the following (modifying the path, as needed):
   - `lpr -P DTC1500 CalibrateRibbon.prn`
   - `lp -d DTC1500 CalibrateRibbon.prn`
4. When completed, the printer beeps twice.

Note: The .prn file is located in the driver package.

2.9.2 Cleaning the printer

Note: The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.

1. Remove all cards from the card hopper and close the hopper door.



2. Open the front cover and remove the ribbon cartridge.
3. Remove the paper backing from both sides of the cleaning card.
4. Place the cleaning card into the single feed slot.
5. From a terminal window enter one of the following (modifying the path, as needed):
   - `lpr -P DTC1500 CleanPrinter.prn`
   - `lp -d DTC1500 CleanPrinter.prn`

Note: The .prn file is located in the driver package.

Section 03

Managing the printer

3.1 CUPS web interface

The CUPS web-based interface is disabled by default on some operating systems. If you receive a message that it is disabled, enter the following at the command line:

```
cupsctl WebInterface=yes
```

To access the CUPS web-based interface for printer management enter the following URL:

http://localhost:631/printers

> **Note:** For a remote server, substitute the appropriate host name string in place of localhost.

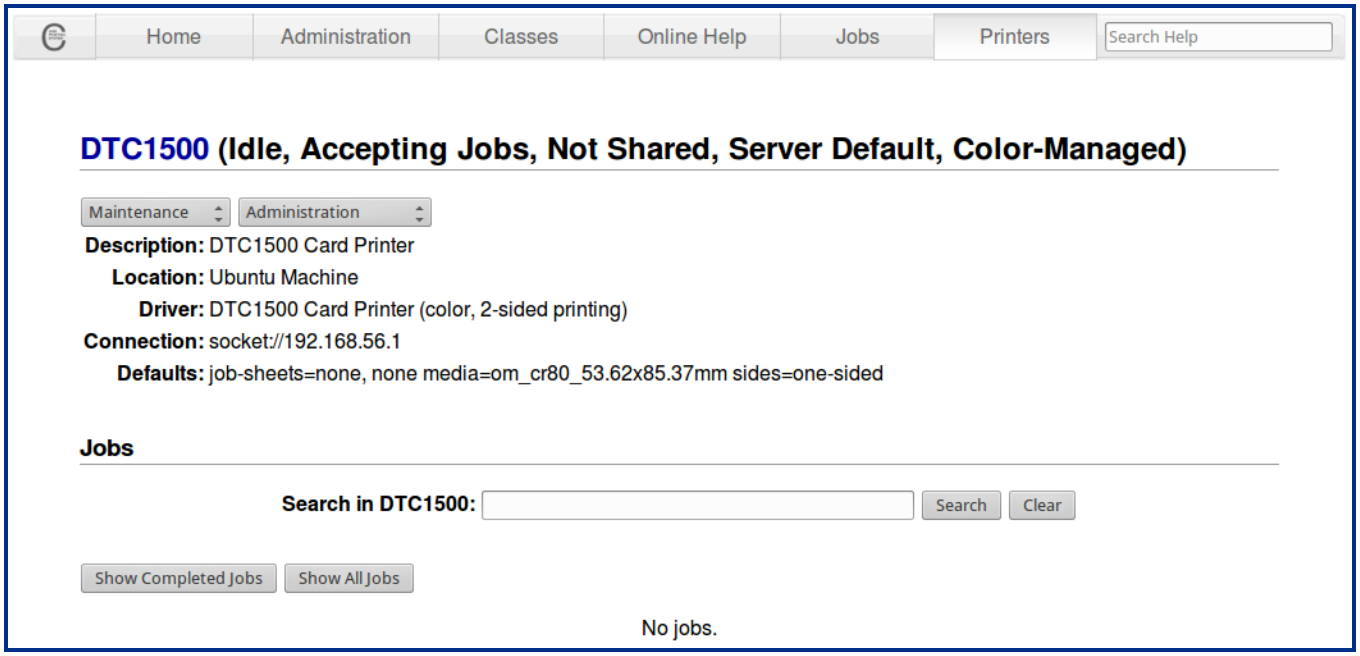
3.2 Printers tab

> **Note:** The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.

Configuration of the DTC printer is completed through the printer queue. The printer queue is accessed from the CUPS home page.

> **Note:** Information about the CUPS web interface can be found by selecting the **Home** tab and clicking the associated link.

1. Click the **Printers** tab to access the printer queue.
2. Select your DTC printer from the **Queue Name** list.
   The printer queue opens to display all printer default information.



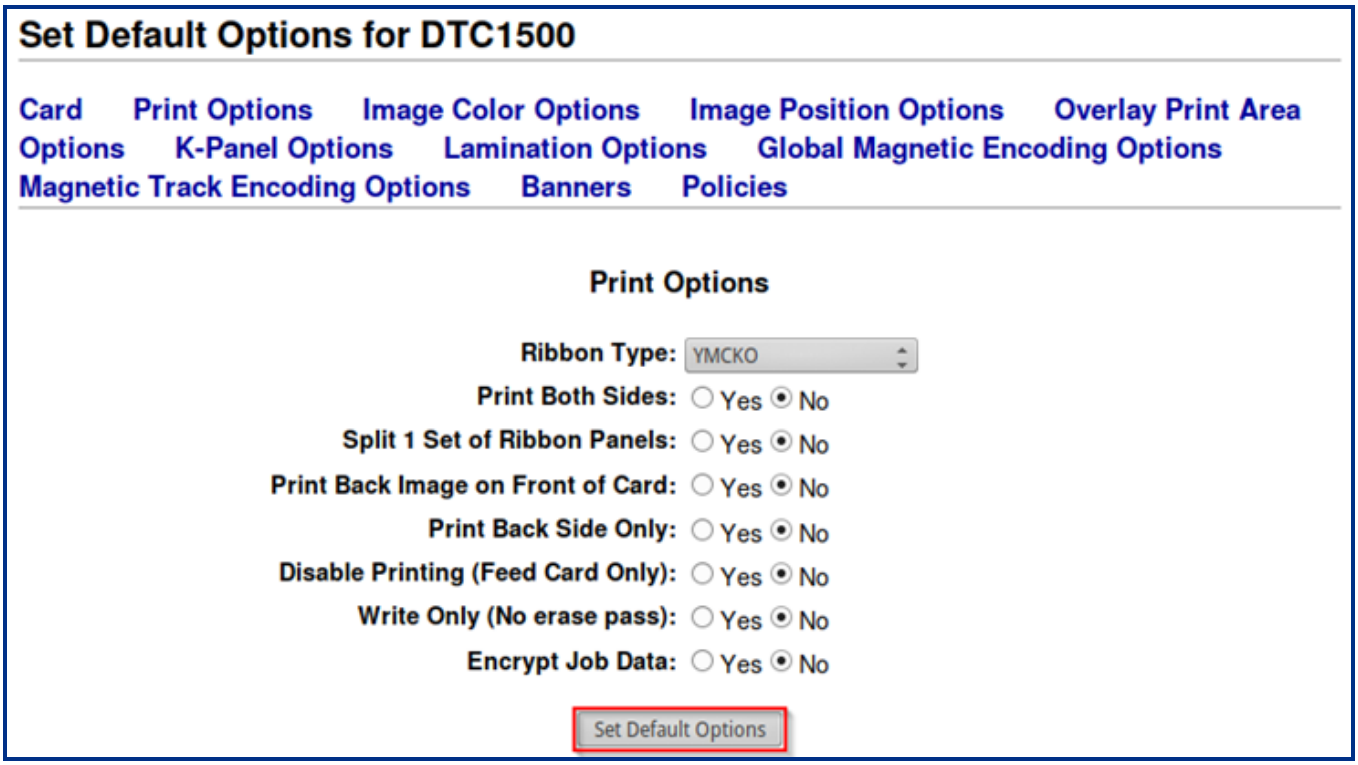
Printer Options	Options
Maintenance	• Print Test Page • Pause Printer • Reject Jobs • Move All Jobs • Cancel All Jobs
Administration	• Modify Printer • Delete Printer • Set Default Options • Set As Server Default • Set Allowed Users

3.3 Option configuration

> **Note:** The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.

Print job option configuration is completed by using the **Set Default Options** window of the CUPS web interface. This window is accessed from the **Print Queue Administration** window.

On the **Administration** tab, select **Set Default Options**.



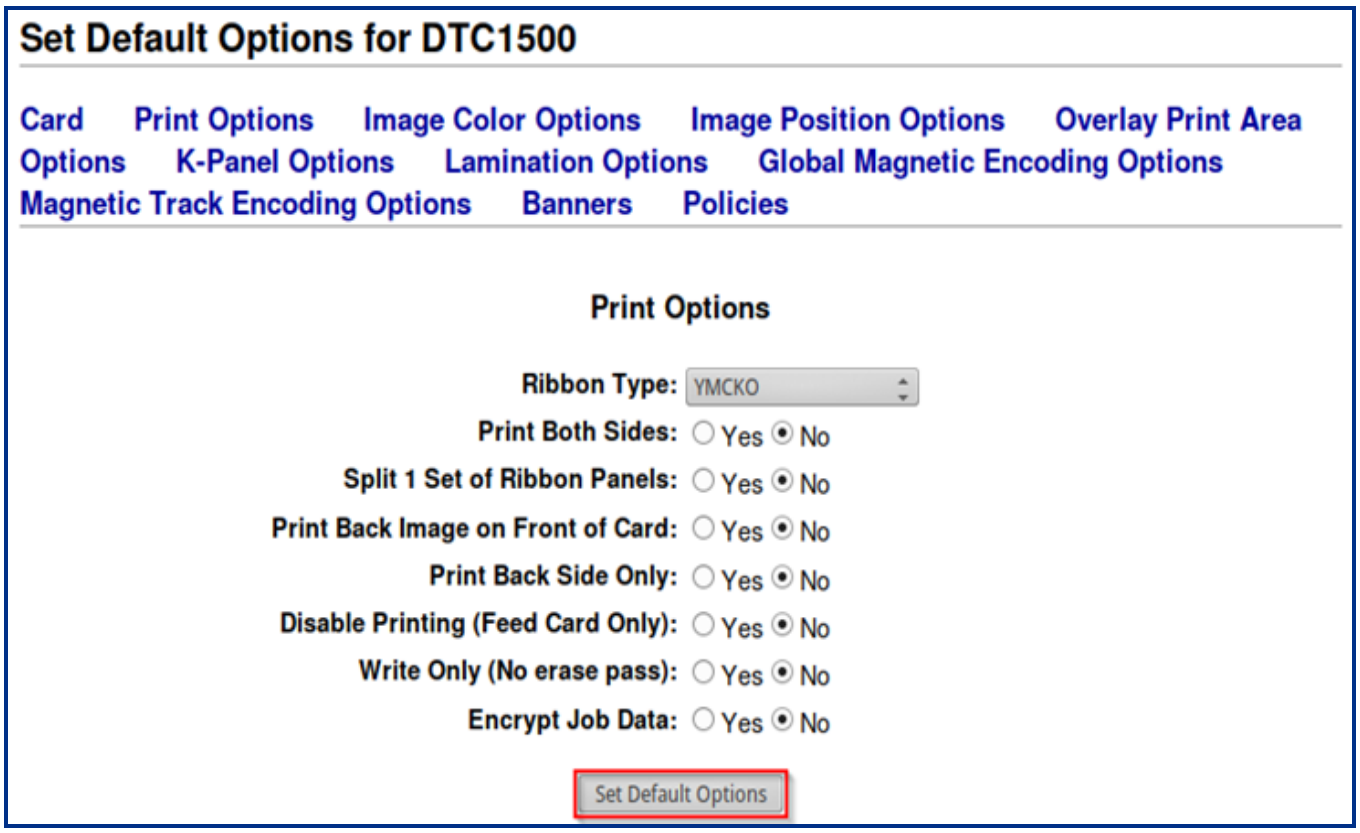
The options on this window vary depending upon the selected printer.

3.4 Setting default options

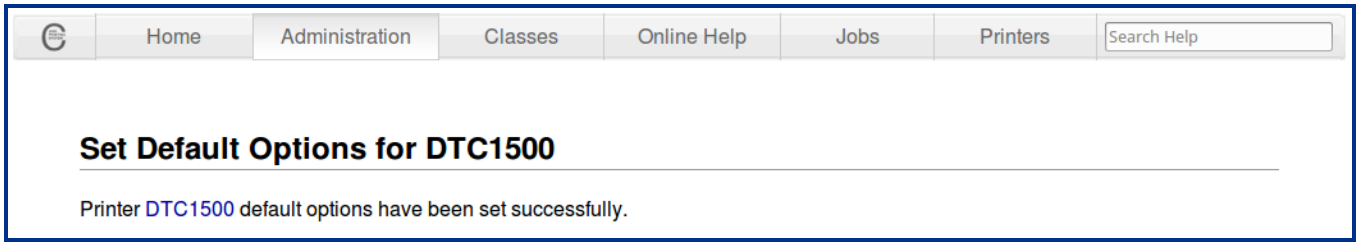
Note: The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.

The following is an example of the **Set Default Options** window. The selections you make to this list become the default options for your printer. To set the default options:

1. Set each option to your desired default.
2. Click **Set Default Options**. A message stating that the default settings have been successfully changed is displayed.



Note: After a brief period, this window automatically transfers back to the **Print Queue Administration** window and the printer configuration process is complete.



3.5 View printer specific options from the command line

Each printer has its own set of supported options that are detailed in the driver PPD file. However, you cannot access this file directly. The `lpoptions` command provides a list of the available options supported by the printer. At a command line, enter:

```
lpoptions -p [printer] -l
```

where `[printer]` is the current printer name.

Each of the available options is displayed on a new line. Each option listing

- Starts with the option name followed by a slash
- Continues with the text description for that option
- Finishes with a colon

Following the colon is a list of all selection values that are supported for that option. An asterisk (*) in front of a selection value indicates that this is the default selection for that option.

For a listing of available printer names, enter the following command:

```
lpstat -p
```

3.6 Set printer-specific options from the command line

For many print jobs, the default printer options are sufficient. However, at times you may need to change the options for a particular file you are printing.

The `lp` and `lpr` commands allow you to pass printer options using the –o option prefix:

```
lp -d [printer] -o landscape -o scaling=75 -o media=A4 [filename]
```

or

```
lpr -P [printer] -o landscape -o scaling=75 -o media=A4 [filename]
```

3.7 Printing from the command line

CUPS provides both System V (lp) and Berkeley (lpr) printing commands. To print a file to the current default printer, use this basic print command:

```
lpr -P [printer] [filename]
```

or

```
lp -d [printer] [filename]
```

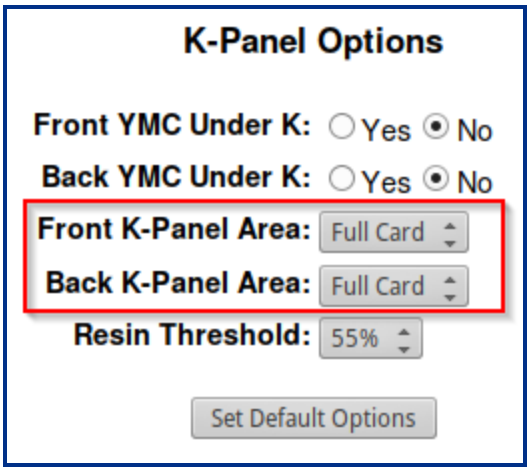
3.8 Printing with magnetic stripe encoding

To print with magnetic stripe encoding use the following command format:

```
lp -d [printer] -o “MagTrack1=%25MAGTEST1%3F MagTrack2=%3B1234567890%3F
MagTrack3=%3B1234567890%3F” [filename]
```

3.9 K Resin exclusion area

The K Resin exclusion area is available from the command line only if the K-Panel will be used on the card. It must be enabled fro the CUPS driver UI in the **K-Panel Options** tab, using the **Front/Back K-Panel Area** options.



3.9.1 K resin using command line options

> **Note:** The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.

Up to five rectangle areas can be defined. For example:

```
lp -d DTC1500 -o "ExclusionKFrontEnable1=true ExclusionKFrontXOrigin1=10
ExclusionKFrontYOrigin1=30 ExclusionKFrontXLength1=600 ExclusionKFrontYLength1=330"
./front_300dpi.bmp
```

Available options are:

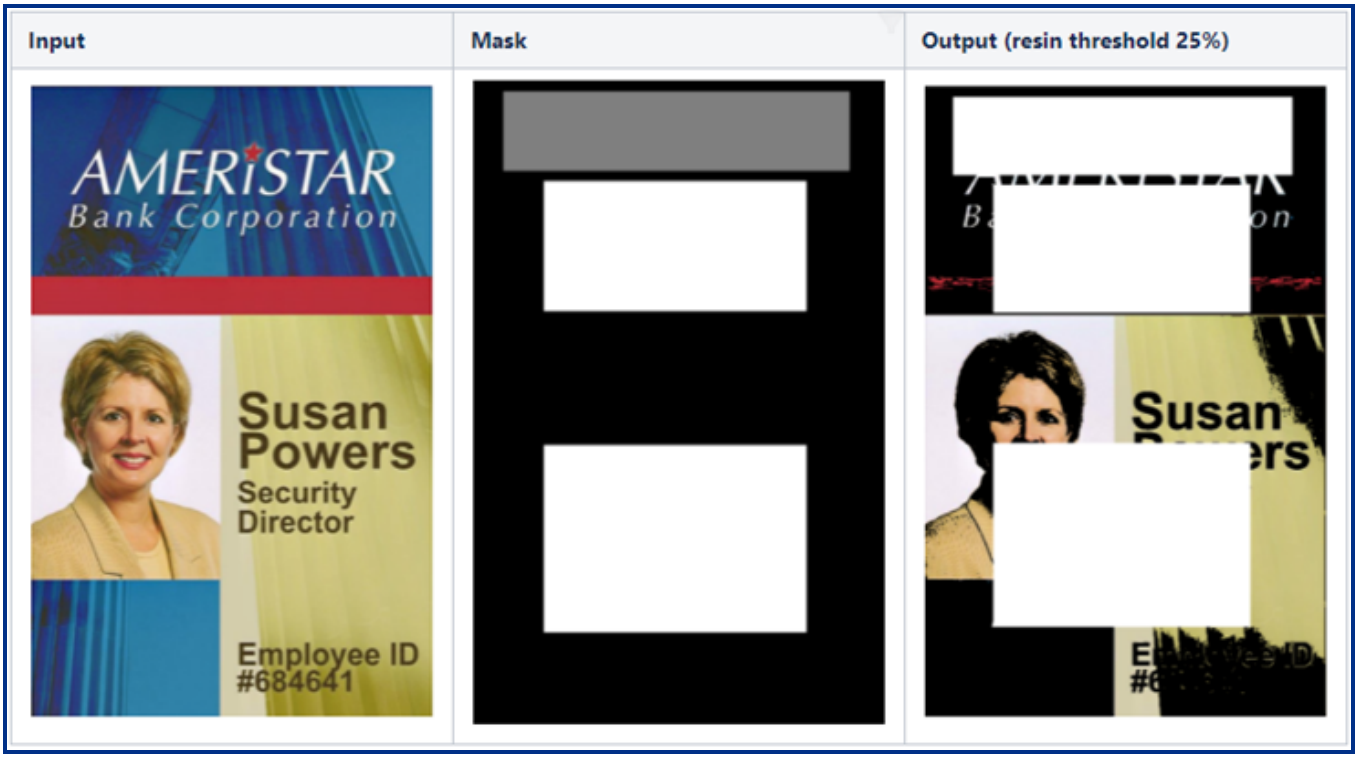
- `ExclusionK[Front|Back]Enable[1-5]`
- `ExclusionK[Front|Back]XOrigin[1-5]`
- `ExclusionK[Front|Back]YOrigin[1-5]`
- `ExclusionK[Front|Back]XLength[1-5]`
- `ExclusionK[Front|Back]YLength[1-5]`

3.9.2 K resin using a bitmap mask

> **Note:** The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.

To use a bitmap mask for the entire card, the black color is a mask where the K-resin will be used, where each pixel is evaluated as true (!0) or false (0). For example:

```
lp -d DTC1500 -o "ExclusionKFrontFilename=/home/user/test/ExclusionK_661x1035.jpg"
./front_300dpi.bmp
```



All other defined areas are omitted when an input file is specified. Available options are:

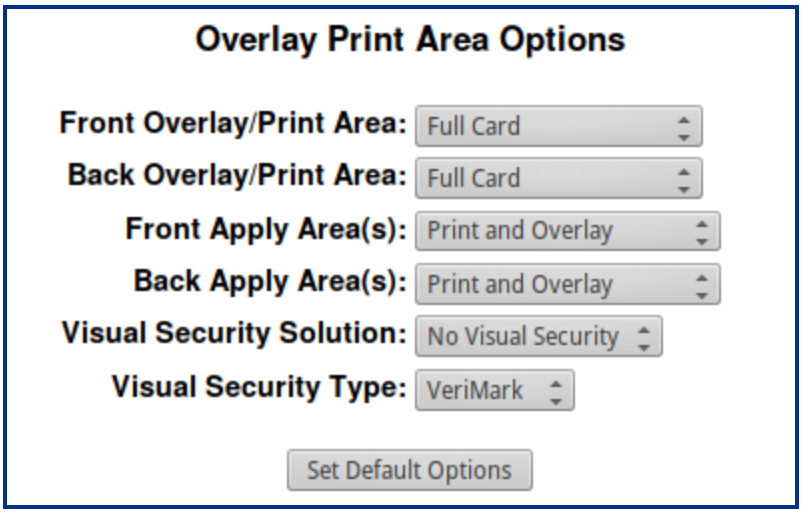
- `ExclusionKFrontFilename`
- `ExclusionKBackFilename`

3.10 Print/overlay exclusion area

The print/overlay area functionality is available in the DTC printer models. There are three options to define print/overlay areas.

3.10.1 Define the exclusion area with the CUPS driver UI

From the CUPS driver UI, use the options from the **Overlay Print Area Options** tab.



3.10.2 Define the exclusion area with the command line

> **Note:** The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.

From the command line input arguments, you can define up to 5 defined areas. For example:

```
lp -d DTC1500 -o "ExclusionAreaFrontEnable1=true ExclusionAreaFrontXOrigin1=10
ExclusionAreaFrontYOrigin1=30 ExclusionAreaFrontXLength1=330
ExclusionAreaFrontYLength1=330" ./front_300dpi.bmp
```

> **Note:** Areas defined this way are merged with the predefined areas from the driver UI preferences.

Available options:

- `ExclusionArea[Front|Back]Enable[1-5]`
- `ExclusionArea[Front|Back]XOrigin[1-5]`
- `ExclusionArea[Front|Back]YOrigin[1-5]`
- `ExclusionArea[Front|Back]XLength[1-5]`
- `ExclusionArea[Front|Back]YLength[1-5]`

3.10.3 Define the exclusion area with a bitmap mask

> **Note:** The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.

From the command line argument, pass the bitmap mask for the entire card. The black color is a mask where the image will be printed. Everything different than black color is cut out. This is because each pixel is evaluated as a true(!0) or false(0). For example:

```
lp -d DTC1500 -o "ExclusionAreaFrontFilename=/home/user/test/PrintAreaMask_661x1035.jpg"
./front_300dpi.bmp
```

> **Note:** This option is stronger than others. If the input file is specified, other defined and predefined areas are omitted.

Available options are:

- `ExclusionAreaFrontFilename`
- `ExclusionAreaBackFilename`

Section 04

Print job configuration options

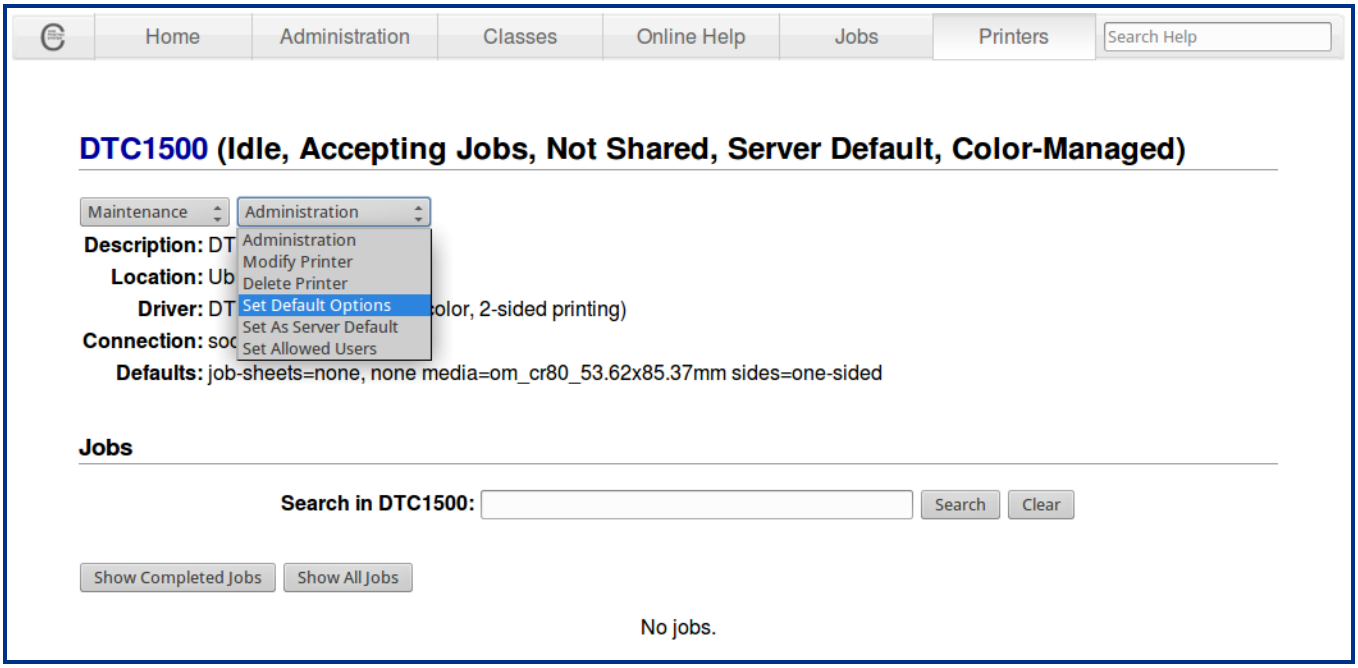
4.1 Print job configuration options introduction

Note: The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.

Each of the print job configuration options that are supported by the DTC card printer are described here. However, not all options are available on all printers. Therefore, with each printer selected, only the options available for that device are displayed.

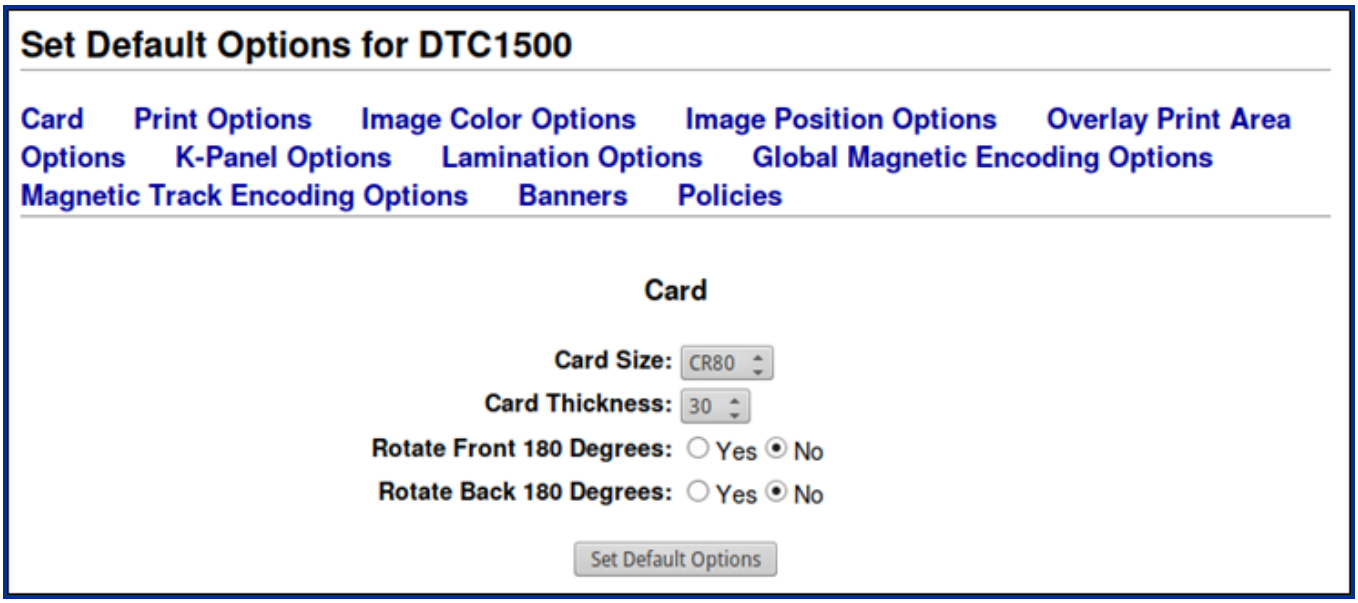
The Print Job configuration options are located at: **Printers** > **[your printer name]** > **Administration** > **Set Default Options**.

The **Set Default Options** window is displayed. Select the option you want to view or configure.



4.2 Card option

Note: The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.

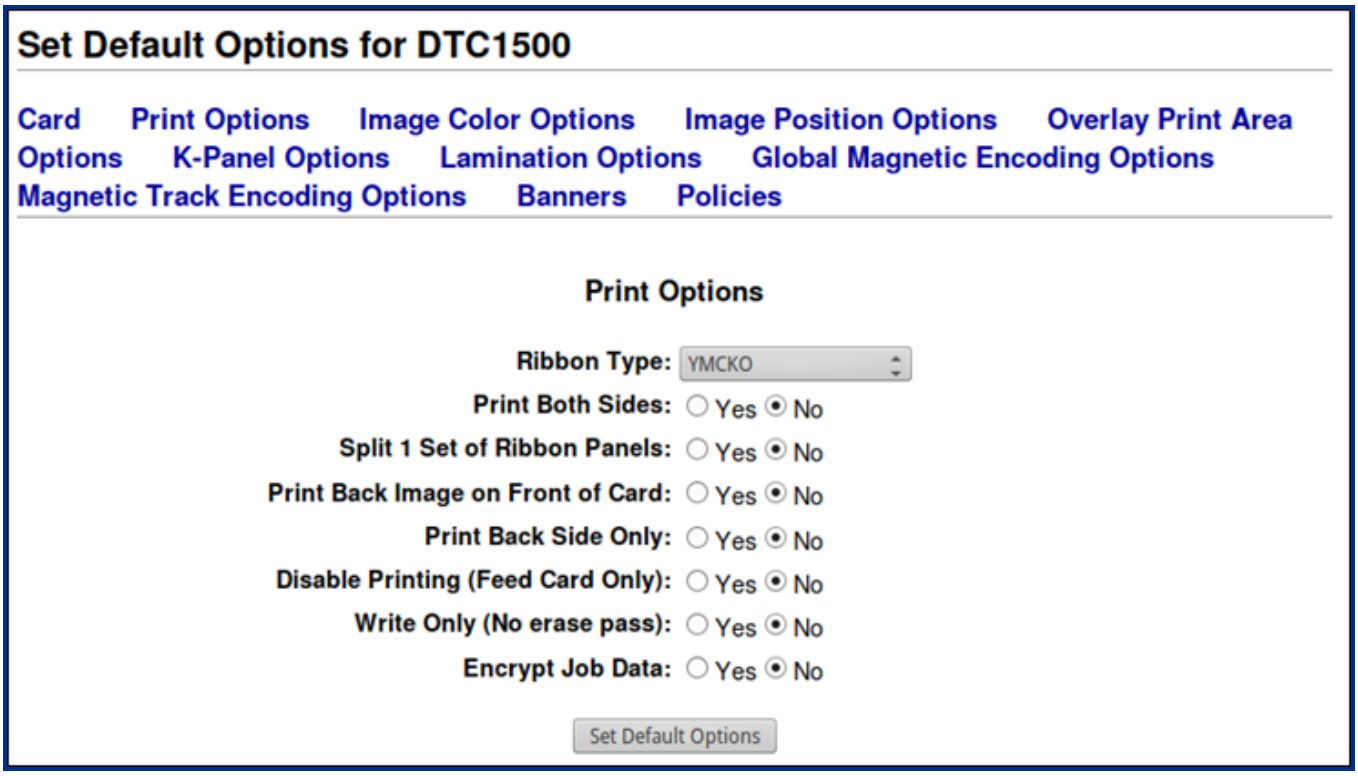


Field	Description
Card Size	Sets the size of card for the print job. Options are: • CR80: This is the default. Dimensions are: 3.375" x 2.125" (85.6 mm x 54 mm). • CR79: Dimensions are: 3.303" x 2.051" (83.9 mm x 52.1 mm). To configure this field from the command line, enter: `PageSize=Selection` where `Selection` is CR80 or CR79.
Card Thickness	Sets the card thickness for the print job. Options are: • 10 mm • 20 mm • 30 mm • 40 mm To configure this field from the command line, enter: `CardThickness=Selection` where `Selection` is 10, 20, 30, or 40.
Rotate Front 180 Degrees	Rotates the image on the front of the card by 180 degrees. Options are: • Yes • No: This is the default. To configure this field from the command line, enter: `RotateImageFront=Selection` where `Selection` is True or False.

Field	Description
Rotate Back 180 Degrees	Rotates the image on the back of the card by 180 degrees. Options are: • Yes • No: This is the default. To configure this field from the command line, enter: `RotateImageBack=Selection` where `Selection` is True or False.

4.3 Print options

Note: The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.



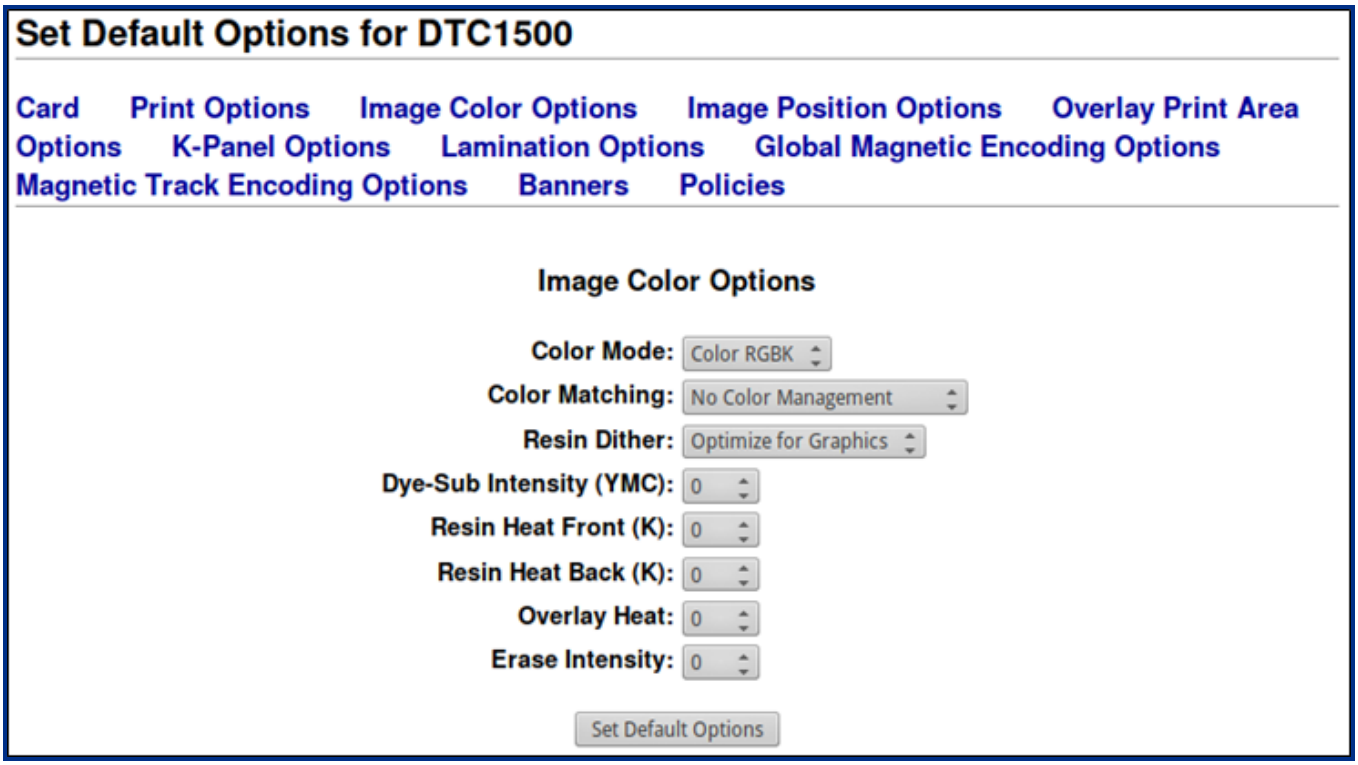
Field	Description
Ribbon Type	Allows you to manually select the installed ribbon. Options are: • YMCKO This is the default. This option sets the print job to YMCKO - Full Color with Resin Black and Overlay Panel. • YMCKO Half Panel • YMCKK • YMCKOK • YMCKOK Half Panel • YMCKOKO Half Panel • Standard Resin • None - Re-Writable To configure this field from the command line, enter: `Ribbon=Selection` where `Selection` is YMCKO, YMCKO_Half, YMCKK, YMCKOK, YMCKOK_Half, YMCKOKO_Half, KStandard, or None.

Field	Description
Print Both Sides	Determines whether duplex printing is enabled or disabled. If the printer is equipped with a flipper module then odd numbered sides of the print job are printed on the front side of the card and even numbered sides are printed on the back side of the card. Options are: • Yes: This option enables duplex printing. If the printer is equipped with a flipper module, then odd numbered sides of the print job are printed on the front side of the card and even numbered sides are printed on the back side of the card. • No: This is the default. This option disables duplex printing. If the print job has multiple sides, then each side is printed on a separate card. To configure this field from the command line, enter: `PrintBothSides=Selection` where `Selection` is True or False.
Split 1 Set of Ribbon Panels	Determines if the ribbon panel is full or split. By default, each side of the card uses a full set of ribbon panels, regardless of the ribbon type selection. Options are: • Yes • No: This is the default. Enable this option to automatically print (when printing using a full color with resin type ribbon): • Full-color on the front side of the card. • Resin black on the back side of the card. If using the YMCKO ribbon type, this option automatically prints • Full-color on the front side of the card. • Resin black on the back side of the card. The overlay panel is printed on the front side of the card. To configure this field from the command line, enter: `SplitRibbon=Selection` where `Selection` is True or False.
Print Back Image on Front of Card	Determines where the back image is printed. When this option is enabled, the first card side is printed on the back side of the card and the second card side is printed on the front card side. Options are: • Yes • No: This is the default. To configure the field from the command line, enter: `PrintBackOnFront=Selection` where `Selection` is True or False.
Print Back Side Only	Enables the card image to be printed on the back side of the card. Options are: • Yes • No: This is the default. To configure this field from the command line, enter: `PrintBackOnly=Selection` where `Selection` is True or False.

Field	Description
Disable Printing (Feed Card Only)	Enables image data to not be printed on the card. This option is useful when only card encoding is desired. Options are: • Yes • No: This is the default. To configure this field from the command line, enter: `DisablePrinting=Selection` where `Selection` is True or False.
Write Only (No Erase Pass)	When using re-writable media, this option determines the write only options. When enabled, the erase pass is skipped and only the write pass is affected. Options are: • Yes • No: This is the default. To configure this field from the command line, enter: `WriteOnly=Selection` where `Selection` is True or False.
Encrypt Job Data	Provides AES encryption of data sent to printer when enabled. This feature is useful when a printer is shared or connected via Ethernet. Options are: • Yes • No: This is the default. To configure this field from the command line, enter: `EncryptJobEnable=Selection` where `Selection` is True or False.

4.4 Image color options

Note: The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.



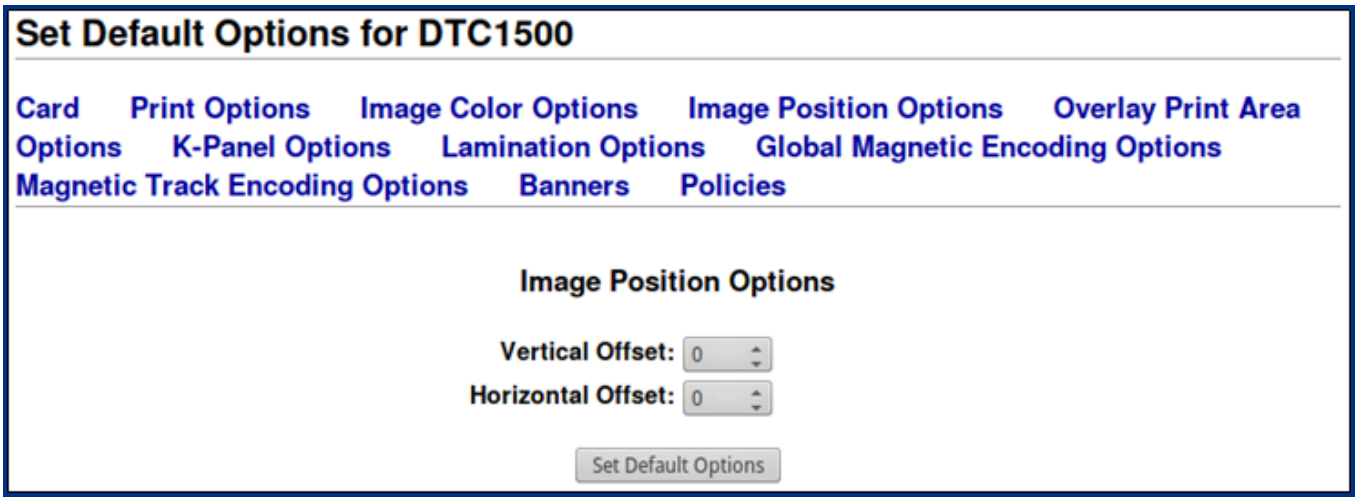
Field	Description
Color Mode	The input color mode of the raster image processor. Options are: • Color RGB • Color RGBK (RGB + black) To configure this field from the command line, enter: `ColorMode=Selection` where `Selection` is RGB or RGBK.
Color Matching	Shifts colors to a different color model so the colors in the printed image are more closely matched to how they appear on the monitor. The default selection provides a closer match to the RGB color specifications. Options are: • System Color Management: This is the default. • None (third party color matching software) To configure this field from the command line, enter: `ColorMatching=Selection` where `Selection` is System or None.

Field	Description
Resin Dither	Selects which dithering method is used. Options are: • Optimize for Graphics: This is the default. Use this option when printing barcodes and graphics with resin. • Optimize for Photos: Use this option when printing photo quality images with resin. To configure this field from the command line, enter: `ResinDither=Selection` where `Selection` is Graphics or Photos.
Dye-Sub Intensity (YMC)	Selects the intensity of the dye-sub. The default is 0. Options are: • Adjust the value higher (+) to use more heat when transferring dye-sub colors to the card. This produces a darker, more saturated image. • Adjust the value lower (-) to use less heat when transferring dye-sub colors to the card. This produces a lighter, less saturated print. To configure this field from the command line, enter: `DyeSubIntensity=Selection` where `Selection` is a numeric value from -50 to 50.
Resin Heat Front (K)	Selects the heat intensity used on the front side of the card. The default is 0. Options are: • Adjust the value higher (+) to use more heat to transfer resin to a card when printing resin black on the front side of the card. • Adjust the value lower (-) to use less heat to transfer resin to a card when printing resin black on the front side of the card. To configure this field from the command line, enter: `ResinHeatFront=Selection` where `Selection` is a numeric value from -50 to 50.
Resin Heat Back (K)	Selects the heat intensity used on the back side of the card. The default is 0. Options are: • Adjust the value higher (+) to use more heat to transfer resin to a card when printing resin black on the back side of the card. • Adjust the value lower (-) to use less heat to transfer resin to a card when printing resin black on the back side of the card. To configure this field from the command line, enter: `ResinHeatBack=Selection` where `Selection` is a numeric value from -50 to 50.
Overlay Heat	Selects the heat intensity to transfer the overlay panel to the card. The default is 0. Options are: • Adjust the value higher (+) to use more heat. • Adjust the value lower (-) to use less heat. To configure this field from the command line, enter: `OverlayHeat=Selection` where `Selection`is a numeric value from -50 to 50.

Field	Description
Erase Intensity	This option selects the intensity of the erase signal when using re-writable media. The default is 0. Options are: • Adjust the value higher (+) to increase the intensity. • Adjust the value lower (-) to decrease the intensity. To configure this field from the command line, enter: `EraseIntensity=Selection` where `Selection` is a numeric value from -50 to 50.

4.5 Image position options

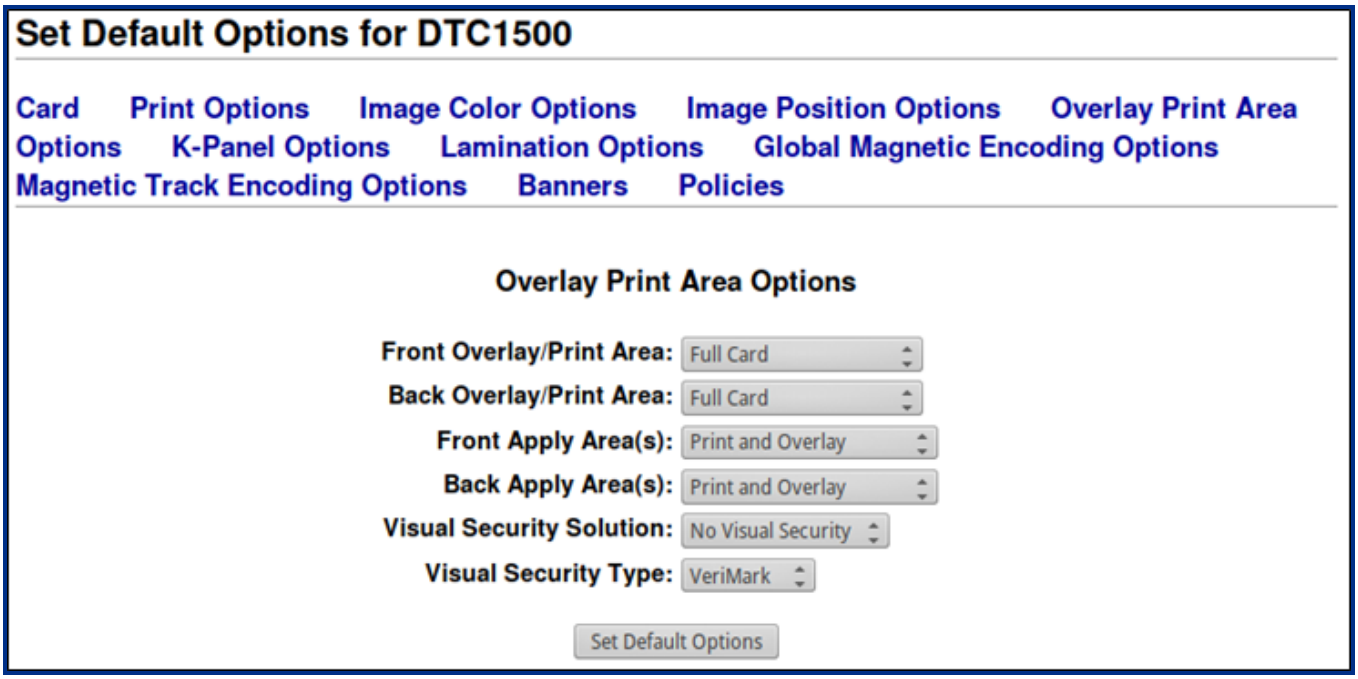
Note: The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.



Field	Description
Vertical Offset	Selects the vertical offset of the image on the card. The default is 0. Options are: • Adjust the value higher (+) to move the image towards the back side of the printer. • Adjust the value lower (-) to move the image towards front side of the printer. To configure this field from the command line, enter: `ImageVOffset=Selection` where `Selection` is a numeric value from -100 to 100.
Horizontal Offset	Selects the horizontal offset of the image on the card. The default is 0. Options are: • Adjust the value higher (+) to move the image towards the card output side of the printer. • Adjust the value higher (-) to move the image towards the card input side of the printer. Note: Adjusting the Horizontal Offset may result in ribbon breakage. To configure this field from the command line, enter: `ImageHOffset=Selection` where `Selection` is a numeric value from -100 to 100.

4.6 Overlay print area options

Note: The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.



Field	Description
Front Overlay/Print Area	Selects where the overlay is applied to or omitted from the front of the card. Options are: • Full Card: This is the default. This option instructs the printer to print image data and overlay data on the full front card surface. No omit sections are enabled. • Omit Mag Stripe Area: This option instructs the printer to omit print image and overlay data from an area of the front card surface corresponding to the ISO location for a magnetic stripe. • Omit Smart Chip Area: This option instructs the printer to omit print image and overlay data from an area of the front card surface corresponding to the ISO location for a smart chip. • Omit Signature Area: This option instructs the printer to omit print image and overlay data from an area of the front card surface corresponding to the ISO location for a signature stripe. For visual examples of these pre-defined omit regions see 4.6.1 Pre-defined print area omit regions. To configure this field from the command line, enter: `PrintAreaFrontOption=Selection` where `Selection` is Fullcard, OmitMagStripe, OmitSmartChip, OmitSignature, Defined, or Undefined.

Field	Description
Back Overlay/Print Area	Selects where the overlay is applied to or omitted from the back of the card. Options are: • **Full Card**: This is the default. This option instructs the printer to print image data and overlay data on the full back card surface. No omit sections are enabled. • **Omit Mag Stripe Area**: This option instructs the printer to omit print image and overlay data from an area of the back card surface corresponding to the ISO location for a magnetic stripe. • **Omit Smart Chip Area**: This option instructs the printer to omit print image and overlay data from an area of the back card surface corresponding to the ISO location for a smart chip. • **Omit Signature Area**: This option instructs the printer to omit print image and overlay data from an area of the back card surface corresponding to the ISO location for a signature stripe. For visual examples of these pre-defined omit regions see 4.6.1 Pre-defined print area omit regions. To configure this field from the command line, enter: `PrintAreaBackOption=Selection` where `Selection` is **Fullcard**, **OmitSignature**, **OmitMagStripe**, **OmitSmartChip**, **Defined**, or **Undefined**.
Front Apply Area(s)	Selects what is applied to the front of the card. Options are: • **Print and Overlay**: This is the default. Both the image and overlay are applied to the front of the card. • **Overlay Only**: The overlay is applied only to the selected area. The print image is not affected. • **Print Only**: The print image is applied only to the selected area. The overlay is completed disabled. To configure this field from the command line, enter: `PrintAreaFrontApply=Selection` where `Selection` is **PrintAndOverlay**, **OverlayOnly**, or **PrintOnly**.
Back Apply Area(s)	Selects what is applied to the back of the card. Options are: • **Print and Overlay**: This is the default. Both the image and overlay are applied to the back of the card. • **Overlay Only**: The overlay is applied only to the selected area. The print image is not affected. • **Print Only**: The print image is applied only to the selected area. The overlay is completed disabled. To configure this field from the command line, enter: `PrintAreaBackApply=Selection` where `Selection` is **PrintAndOverlay**, **OverlayOnly**, or **PrintOnly**.
Visual Security	Selects where the Visual Security is located on the front of the card. Options are: • **No Visual Security**: This is the default. The option disables Visual Security. • **Lower Left**: Enables the option by placing the Visual Security region in the lower left corner of the card image. • **Upper Left**: Enables the option by placing the Visual Security region in the upper left corner of the card image. • **Lower Right**: Enables the option by placing the Visual Security region in the lower right corner of the card image. • **Upper Right**: Enables the option by placing the Visual Security region in the upper right corner of the card image. **Note:** When this option is enabled, the **Front Overlay/Print Area** selection is ignored. To configure this field from the command line, enter: `VisualSecurityArea=Selection` where `Selection` is **None**, **LowerLeft**, **UpperLeft**, **LowerRight**, or **UpperRight**.

Field	Description
Visual Security Type	Selects the type of Visual Security. Options are: • VeriMark: This is the default. • HoloMark To configure this field from the command line, enter: `VisualSecurityType=Selection` where `Selection` is VeriMark or HoloMark.

4.6.1 Pre-defined print area omit regions

These card examples show the effect of the pre-defined print area omit regions that may be selected using the **Front Overlay/Print Area** and the **Back Overlay/Print Area** options. The red highlighted area is omitted.

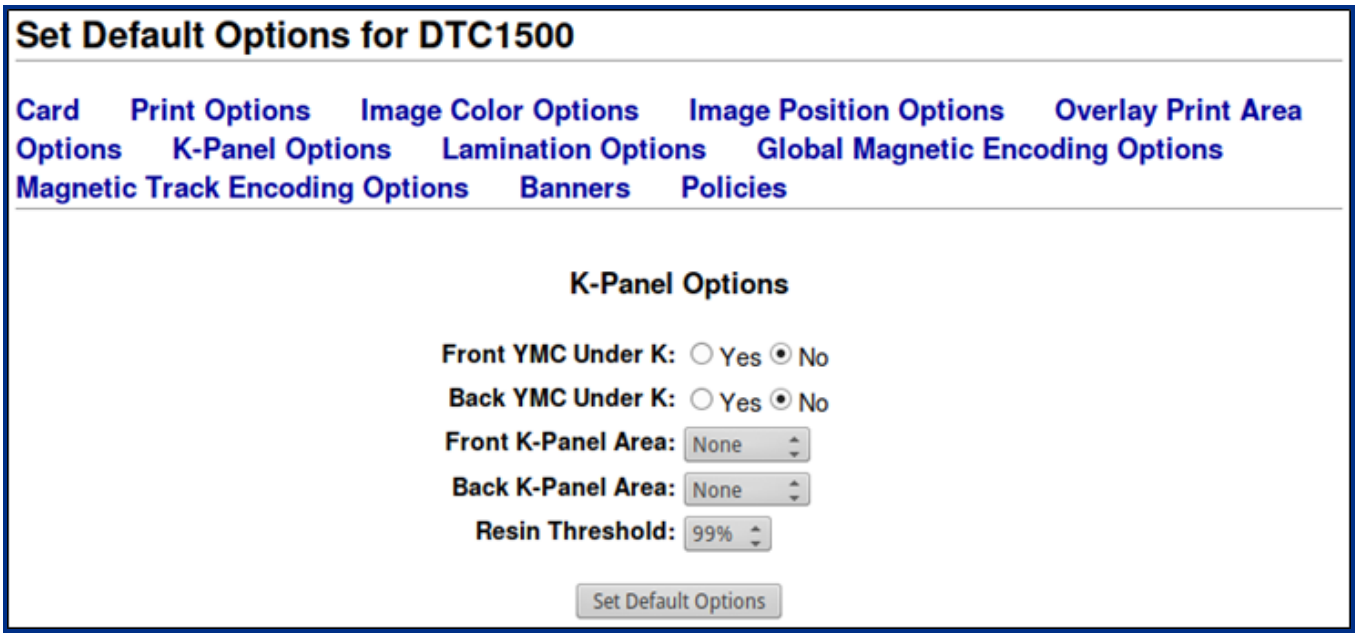
Mag stripe

Smart chip

Signature

4.7 K-Panel options

Note: The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.

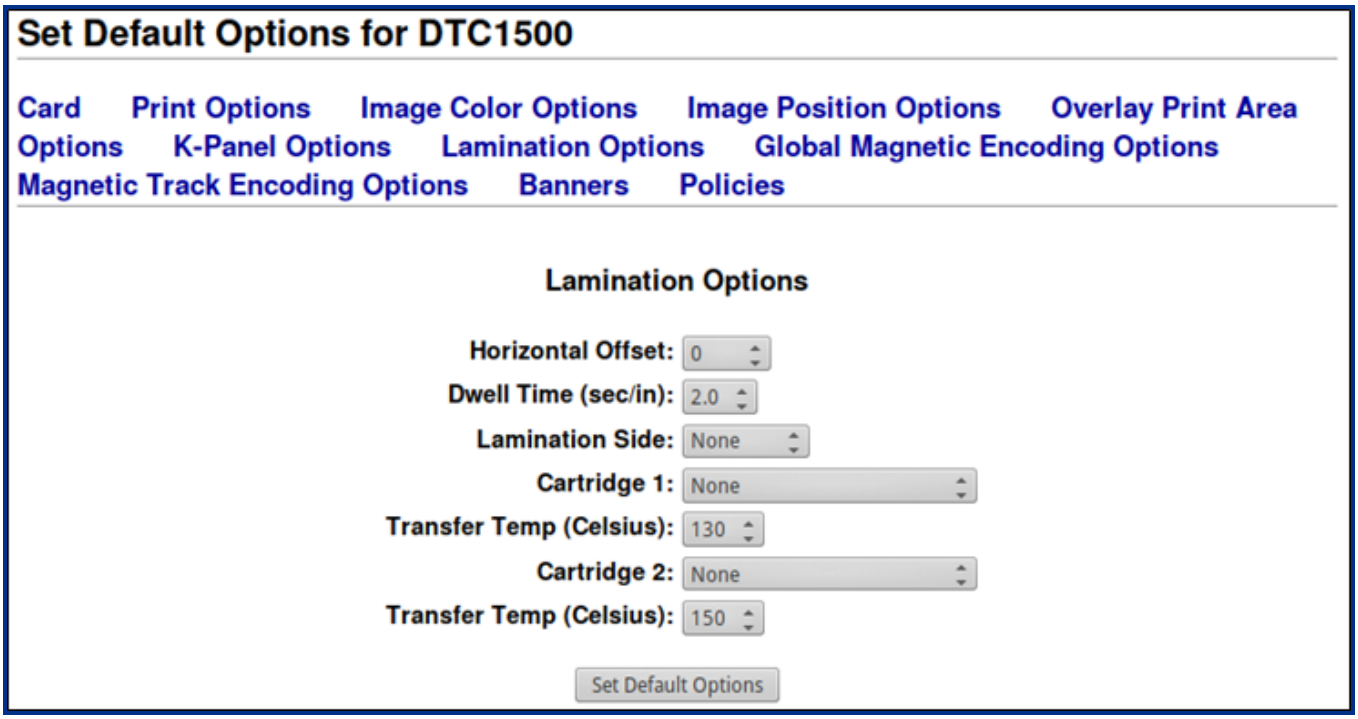


Field	Description
Front YMC Under K	Determines if YMC is printed under the resin black on the front of the card. Options are: • Yes: Enables YMC dye-sub black to be printed underneath the resin black for pixels that are affected by the Front K-Panel Area option. This option provides a gradual transition between background colors and the edges of text and bar codes printed with resin black. • No: This is the default. YMC dye-sub black is not printed under the resin black for pixels that are affected by the Front K-Panel Area option. This option maximizes the sharpness of text and bar codes printed with resin black. To configure this field from the command line, enter: `YMCunderKFront=Selection` where `Selection` is True or False.
Back YMC Under K	Determines if YMC is printed under the resin black on the back of the card. Options are: • Yes: Enables YMC dye-sub black to be printed underneath the resin black for pixels that are affected by the Back K-Panel Area option. This option provides a gradual transition between background colors and the edges of text and bar codes printed with resin black. • No: This is the default. YMC dye-sub black is not printed underneath the resin black for pixels that are affected by the Back K-Panel Area option. This option maximizes the sharpness of text and bar codes printed with resin black. To configure this field from the command line, enter: `YMCunderKBack=Selection` where `Selection` is True or False.

Field	Description
Front K-Panel Area	Selects if the K-Panel is used on the front of the card. Options are: • None: This is the default. • Full Card: Instructs the printer to use the resin black ribbon panel to print all black pixels found within the image data on the front of the card. To configure this field from the command line, enter: `KPanelFrontApply=Selection` where `Selection` is None or Fullcard.
Back K-Panel Area	Selects if the K-Panel is used on the back side of the card. Options are: • None: This is the default. • Full Card: Instructs the printer to use the resin black ribbon panel to print all black pixels found within the image data on the back side of the card. To configure this field from the command line, enter: `KPanelBackApply=Selection` where `Selection` is None or Fullcard.
Resin Threshold	Changes the level at which the driver moves a pixel to be printed on a resin panel instead of a YMC. To configure this field from the command line, enter: `ResinThreshold=Selection` where `Selection` is a numeric value from 1 to 99.

4.8 Lamination options

Note: The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.



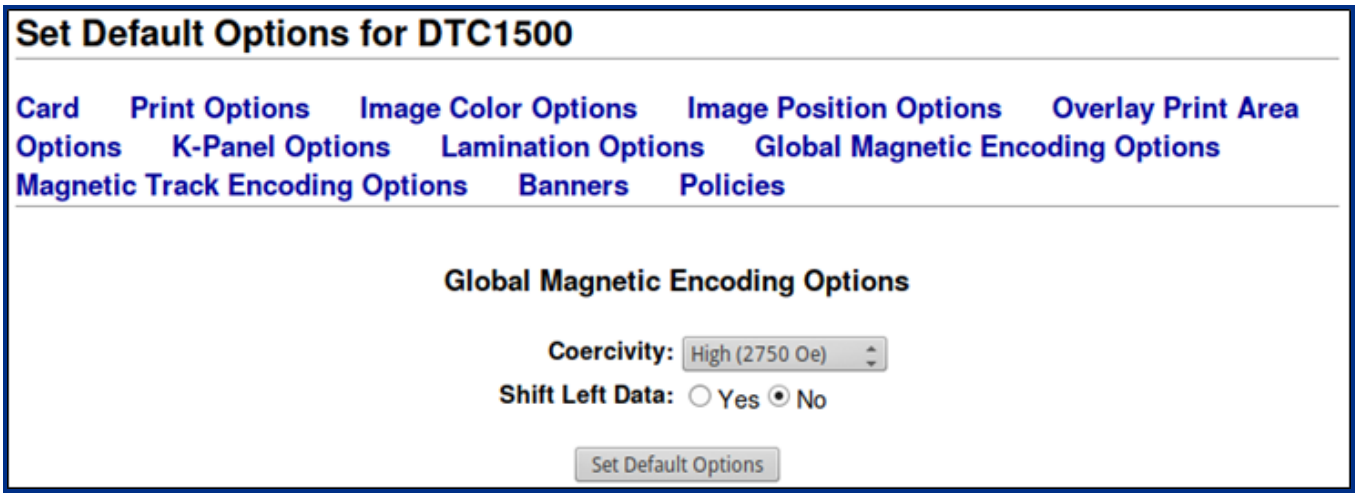
Field	Description
Horizontal Offset	Selects the lamination horizontal offset. The default is 0. Options are: • Adjust the value higher (+) to move the image towards the card output side of the laminator. • Adjust the value lower (-) to move the image towards the card input side of the laminator. To configure this field from the command line, enter: `LamPosition=Selection` where `Selection` is a numeric value from -100 to 100.
Dwell Time (sec/in)	Sets the dwell time of the card. The default is 20. Options are: • Adjust the value higher (+) to slow down the card movement while laminating. • Adjust the value lower (-) to speed up the card movement while laminating. To configure this field from the command line, enter: `LamSpeed=Selection` where `Selection` is a numeric value from 8 to 55.

Field	Description
Lamination Side	Selects the side for the lamination. Options are: • None: Laminate will not occur. This is the default. • Front: Laminate will occur on the front side of the card • Back: Laminate will occur on the back side of the card • Both: Laminate will occur on both the front side and back sides of the card • Opposite: The default front side laminate will occur on teh back side of the card and the default back side lamatine will occur on te front side of the card. It is useful whe two different laminate types are used. To configure this field from the command line, enter: `LamSide=Selection` where `Selection` is None , FrontSide, BackSide, BothSides, or OppositeSides.
Cartridge 1	Selects the cartridge 1 lamination type. Options are: • None: This is the default. • Clear Film • Registered Film • 0.6 Polyguard • 1.0 Polyguard • Polyguard Alternating Patch • Holographic Film To configure this field from the command line, enter: `LamType1=Selection` where `Selection` is None , ClearFilm, RegisteredFilm, PolyGuard_06, PolyGuard_10, PolyGuardAltPatch, or HolographicFilm.
Transfer Temp (Celsius)	Selects the temperature for cartridge 1. The default is 0. Options are: • Adjust the value higher (+) to increase transfer temperature. • Adjust the value lower (-) to decrease transfer temperature. To configure this field from the command line, enter: `LamTransferTemp1=Selection` where `Selection` is a numeric value from -100 to 100.
Cartridge 2	Selects the cartridge 1 lamination type. Options are: • None: This is the default. • Clear Film • Registered Film • 0.6 Polyguard • 1.0 Polyguard • Polyguard Alternating Patch • Holographic Film To configure this field from the command line, enter: `LamType2=Selection` where `Selection` is None , ClearFilm, RegisteredFilm, PolyGuard_06, PolyGuard_10, PolyGuardAltPatch, or HolographicFilm.

Field	Description
Transfer Temp (Celsius)	Selects the temperature for cartridge 2. The default is 0. Options are: • Adjust the value higher (+) to increase transfer temperature. • Adjust the value lower (-) to decrease transfer temperature. To configure this field from the command line, enter: `LamTransferTemp2=Selection` where `Selection` is a numeric value from -100 to 100.

4.9 Global magnetic encoding options

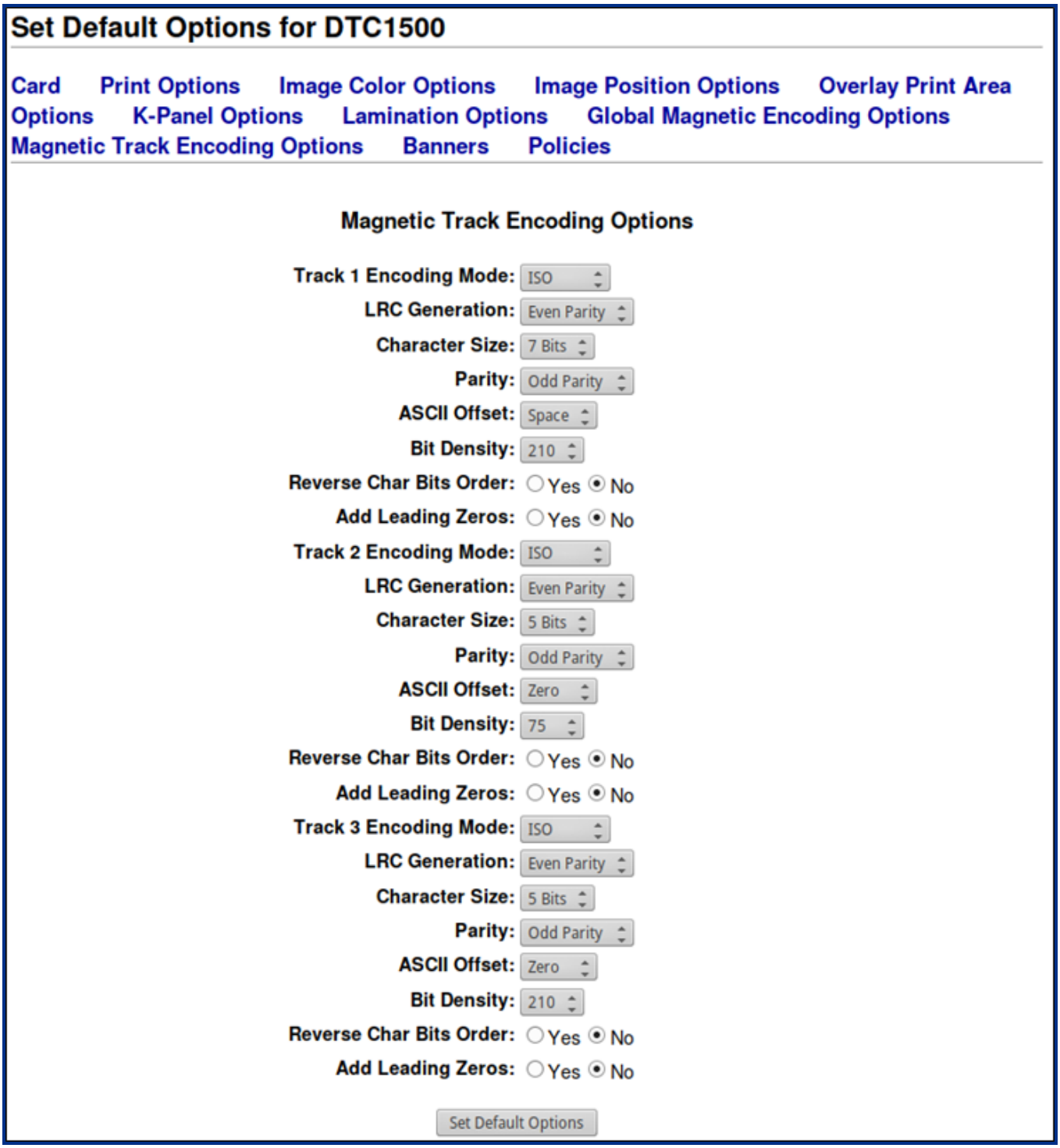
Note: The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.



Field	Description
Coercivity	Selects the coercivity for magnetic encoding. Options are: • Super (4000 Oe) • High (2750 Oe): This is the default. • Medium (600 Oe) • Low (300 Oe) To configure this field from the command line, enter: `Coercivity=Selection` where `Selection` is 4000, 2750, 600, or 300.
Shift Left Data	Enables the magnetic data to be shifted left as it is encoded onto the magnetic stripe. Options are: • Yes • No: This is the default. To configure this field from the command line, enter: `ShiftDataLeft=Selection` where `Selection` is True or False.

4.10 Magnetic track encoding options

Note: The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.



Field	Description
Track 1 Encoding Mode (Magnetic Encoding)	Sets the encoding mode independently for each of the three magnetic tracks. Options are: • ISO: This is the default. • Custom • JIS II • Raw To configure this field from the command line, enter: `MagNTrackMode=Selection` where *N* is 1, 2, or 3, and `Selection` is ISO, Custom, JIS, or Raw.
LRC Generation	Sets the LRC generation independently for each of the three magnetic tracks. Options are: • None • Even Parity: This is the default. • Odd Parity To configure this field from the command line, enter: `MagNLRCGeneration=Selection` where *N* is 1, 2, or 3, and `Selection` is None, Even, or Odd.
Character Size	Sets the character size (in bits per character) independently for each of the three magnetic tracks. Options are: • 4 Bits • 5 Bits: This is the default for magnetic tracks 2 and 3. • 7 Bits: This is the default for magnetic track 1. • 8 Bits To configure this field from the command line, enter: `MagNCharSize=Selection` where *N* is 1, 2, or 3 and `Selection` is 4, 5, 7, or 8.
Character Parity	Sets the character parity independently for each of the three magnetic tracks. Available options: • None • Even Parity • Odd Parity: This is the default. To configure from the command line: `MagNParity=Selection` where *N* is 1, 2, or 3 and `Selection` is None, Even, or Odd.
Character ASCII Offset	Sets the character ASCII offset independently for each of the three magnetic tracks. Available options: • Null • Space: This is the default for magnetic track 1. • Zero: This is the default for magnetic tracks 2 and 3. To configure this field from the command line, enter: `MagNASCIIOffset=Selection` where *N* is 1, 2, or 3 and `Selection` is Null, Space, or Zero.

Field	Description
Track Bit Density	Sets the encoding bit density independently for each of the three magnetic tracks. Available options: • 75: This is the default for magnetic track 2. • 128 • 210: This is the default for magnetic tracks 1 and 3. To configure this field from the command line, enter: `MagNBitDensity=Selection` where *N* is 1, 2, or 3 and `Selection` is 75, 128, or 210.
Track Reverse Bit Order	Reverses the order of the magnetic track data bits as it is encoded onto the magnetic stripe. Options are: • Yes: This is the default. • No To configure this field from the command line, enter: `MagNReverseCharBits=Selection` where *N* is 1, 2, or 3 and `Selection` is True or False.
Track Add Leading Zeros	Prepends leading zero bits to the stream of magnetic track data bits. Options are: • Yes • No: This is the default. To configure this field from the command line, enter: `MagNAddLeadingZeros=Selection` where *N* is 1, 2, or 3 and `Selection` is True or False.

4.10.1 Card printer driver magnetic encoder settings

This table shows the settings that should be used to correctly configure HID card printers.

Encoding Mode	Shift Left Data	LRC Generation	Character Size	Character Parity	ASCII Offset	Bit Density	Reverse Bit Order	Add Leading Zero
ISO	No	Even	Track 1 = 7 Track 2 = 5 Track 3 = 5	Odd	Track 1 = Space Track 2 = Zero Track 3 = Zero	Track 1 = 210 Track 2 = 75 Track 3 = 210	Yes	Yes
Custom	Yes, No	No, Even, Odd	5, 7	No, Even, Odd	Null, Space, Zero	75, 128, 210	Yes	Yes
Raw	No	No	4, 8	No	Null	75, 210	Yes, No	Yes, No
JIS	No	Even	8	Even	Null	210	No	No

4.11 Magnetic stripe encode data

Magnetic stripe encode data must be passed to the CUPS driver using the command line. The following command line options have been defined for this purpose:

- Magtrack1
- Magtrack2
- Magtrack3

Each option is set equal to the string of data to be encoded for that track. The string of encode data must be passed to the CUPS driver in URL character encoding mode. See **4.11.2 URL character encoding mode**.

A command line option flag (-o) must precede the first track of magnetic stripe encode data passed on the command line. The second and third tracks, however, may be specified following the first track without including additional command line option flags.

Command line example:

```
lp -d <Printer_Queue_Name> -o "Magtrack1=%25MAGTEST1%3F Magtrack2=%3B1234567890%3F Magtrack3=%3B1234567890%3F"
<Filename>
```

4.11.1 Magnetic stripe encoding - format details

The following sections describe the URL character encoding mode and details the currently supported magnetic stripe encoding modes:

- ISO Mode
- JIS II Mode
- Custom Mode
- Raw Mode

4.11.2 URL character encoding mode

The CUPS driver uses URL encoding mode when defining data to be encoded to each of the magnetic stripes. To be recognized, all characters passed to the driver, including any special characters (such as start and end sentinels), must be described with a URL encoding mode.

In URL encoding mode all ASCII characters, except for the reserved character set defined here, are represented by their normal ASCII character codes. Each character in the reserved character set must be represented by a 3-character sequence: a percent character (%) followed by a 2-character representation of the hex equivalent of the ASCII character code.

This table specifies each of these reserved characters and their associated 3-character URL encoding sequence.

ASCII Character	URL Encoding		ASCII Character	URL Encoding
!	%21		,	%2C
#	%23		/	%2F
$	%24		:	%3A
%	%25		;	%3B
&	%26		=	%3D
'	%27		?	%3F
(	%28		@	%40
)	%29		[	%5B
*	%2A		]	%5D
+	%2B			

4.11.3 ISO magnetic encoding mode

The ISO magnetic encoding mode comprises three components:

- Start Sentinel
- Track Character Data
- End Sentinel

The first character of each track data string must be the track specific start sentinel (SS), and the last character must be the track specific end sentinel (ES).

The data characters in between the SS and ES must be limited to the track specific range of valid character codes.

The total number of characters for each track must be limited to the track specific maximum character count.

When segmenting track data, the track specific field separator (FS) must be used.

The following table details the required start sentinel, end sentinel, field separator, valid character code range, and the maximum character count for each of the three magnetic tracks.

Track	Start Sentinel (SS)	End Sentinel (ES)	Field Separator (FS)	Valid Character Code Range	Maximum Character Count
1	%	?	^	ASCII 32-95	78
2	;	?	=	ASCII 48-63	39
3	;	?	=	ASCII 48-63	109

4.11.4 JIS II magnetic encoding mode

The JIS II magnetic encoding mode allows you to specify string data to be encoded on the magnetic stripe using the JIS II encoding format. JIS normally is only for Track 2. Track 1 and 3 are not standard JIS, but is supported. JIS II does not expect a beginning and ending sentinel for the encoding character string.

4.11.5 Custom magnetic encoding mode

The custom magnetic encoding mode allows you to independently specify each of the various encoding parameters for each magnetic track. Individual characters are encoded on each magnetic track using the set of parameters. For custom encoding more flexibility than for JIS II or ISO is provided.

4.11.6 Raw magnetic encoding mode

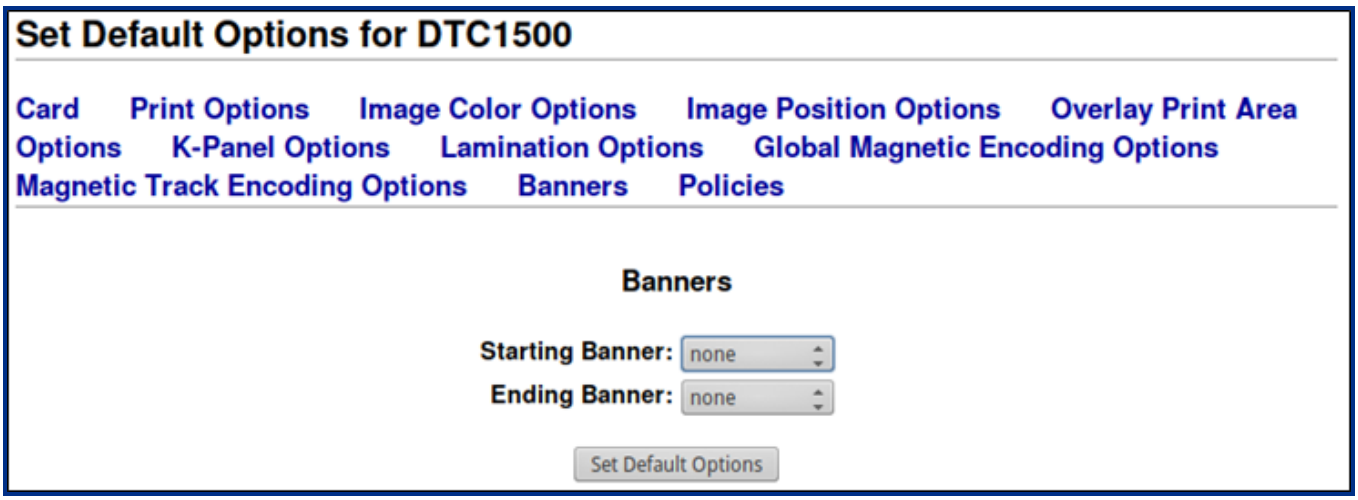
The raw magnetic encoding mode allows you to specify raw binary string data to be encoded on the magnetic stripe. A specific format of the input data is not assumed and all encoding parameters for each magnetic track are ignored, except for the track bit density. Using RAW format requires the binary data to be specified more completely than for other formats. Such options as parity, LRC, shift left data are not supported. The bit density can be any value between 75 and 210; however, a value not selectable from the UI can only be specified by a command line option.

4.12 Banners option

The Banners option is accessible using the CUPS web interface.

These options are not printer specific, but is part of the standard set of configuration options supported by the CUPS system for all printers.

> **Note:** The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.



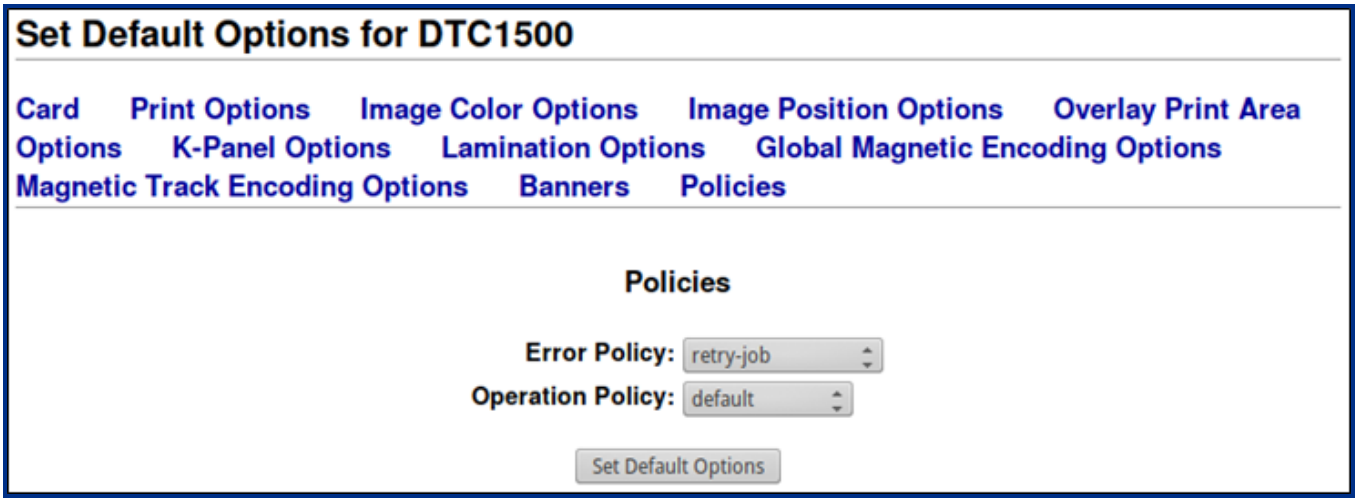
Field	Description
Starting Banner	Specifies the message that is displayed on the banner (other than the default). Options are: • None: This is the default. • Standard • Confidential • Unclassified • Classified • Secret • Top Secret To configure this field from the command line, enter: `job-sheets = StartBanner,EndBanner` where `StartBanner` and `EndBanner` are each one of the following: • None • Standard • Confidential • Unclassified • Classified • Secret • Topsecret

Field	Description
Ending Banner	Specifies the message that is displayed on the banner (other than the default). Options are: • None: This is the default. • Standard • Confidential • Unclassified • Classified • Secret • Top Secret To configure this field from the command line, enter: `job-sheets = StartBanner,EndBanner` where `StartBanner` and `EndBanner` are each one of the following: • None • Standard • Confidential • Unclassified • Classified • Secret • Topsecret

4.13 Policies options

The Policies options is accessible using the CUPS web interface. These options are not printer specific, but is part of the standard set of configuration options supported by the CUPS system for all printers.

> **Note:** The **HID FARGO DTC1500** printer is used in the following information. For other printers, please replace **DTC1500** with your printer model.



Field	Description
Error Policy	Defines the policy that is used when a backend is unable to send a print job to the printer. Options are: • Abort-job: Aborts the job and proceeds with the next job in the queue. • Retry-current-job: Retries the current job immediately. • Retry-job: Retries the job after waiting N seconds, where the cupsd.conf JobRetryInterval directive controls the value of N. • Stop-printer: This is the default. Stops the printer and keeps the job for future printing. The Error Policy is supported using the `lpadmin` command on the command line interface.
Operation Policy	Defines the required authentication type. Options are: • Default: This is the default. • Kerberos The Operation Policy is supported using the `lpadmin` command on the command line interface.

Section 05

Licenses

5.1 Copyright notices

The driver (hereinafter referred to as Product) includes software packages that are subject to the licenses named in the following table:

Software Package	License
Sample ICC[1]	The ICC Software License, Version 0.1
Boost	Boost Software License
Xerces	Apache License, Version 2.0

1. This product includes software developed by The International Color Consortium (www.color.org).

5.2 The ICC software license, version 0.1

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The end-user documentation included with the redistribution, if any, must include the following acknowledgment: "This product includes software developed by The International Color Consortium (www.color.org)." Alternatively, this acknowledgment may appear in the software itself, if and wherever such third-party acknowledgments normally appear.
4. In the absence of prior written permission, the names "ICC" and "The International Color Consortium" must not be used to imply that the ICC organization endorses or promotes products derived from this software.

5.3 Boost software license - version 1.0 - August 17th, 2003

Permission is hereby granted, free of charge, to any person or organization obtaining a copy of the software and accompanying documentation covered by this license (the Software) to use, reproduce, display, distribute, execute, and transmit the Software, and to prepare derivative works of the Software, and to permit third-parties to whom the Software is furnished to do so, all subject to the following:

The copyright notices in the Software and this entire statement, including the above license grant, this restriction and the following disclaimer, must be included in all copies of the Software, in whole or in part, and all derivative works of the Software, unless such copies or derivative works are solely in the form of machine-executable object code generated by a source language processor.

5.4 Apache license - version 2.0, January 2004

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

   License shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

   Licensor shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

Legal Entity shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, control means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

You (or Your) shall mean an individual or Legal Entity exercising permissions granted by this License.

Source form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

Object form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

Work shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

Derivative Works shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

Contribution shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, submitted means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as Not a Contribution.

Contributor shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty- free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.
3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.
4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or iwthout modifications, and in Source of Object form, provided that You meet the following conditions:
    1. You must give any other recipients of the Work or Derivative Works a copy of this License; and
    2. You must cause any modified files to carry prominent notices stating that You changed the files; and
    3. You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

4. If the Work includes a NOTICE text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informa- tional purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be con- strued as modifying the License.
5. You may add Your own copyright statement to Your modifications and may provide addi- tional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.
6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.
7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an AS IS BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.
8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.
9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

Revision history

Date	Description	Revision
June 2023	Updated supported OS levels.	A.4
June 2022	Added support for DTC4500e, DTC4250e, DTC1250e, and DTCii printers.	A.3
February 2022	Added support for DTC1500 printer. Added new subsections to Sections 3 and 4.	A.2
September 2020	Added printer firmware upgrade to Section 2.	A.1
June 2020	Initial release.	A.0

hidglobal.com

For technical support, please visit: https://support.hidglobal.com

PLT-04870, Rev. A.4

Part of ASSA ABLOY